GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: April 5, 2004, 14:59:12 ; Search time 11.6667 Seconds
(without alignments)
74.205 Million cell updates/sec

Title: US-09-766-889C-8
Perfect score: 52
Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	52	100.0	280	2	JC2358	melanoma antigen M
2	44	84.6	369	2	I38659	melanoma antigen M
3	43	82.7	234	2	I38667	melanoma antigen M
4	43	82.7	315	2	I38668	melanoma antigen M
5	42	80.8	319	2	I38660	melanoma antigen M
6	38	73.1	129	2	E72685	hypothetical prote
7	38	73.1	305	2	H83287	conserved hypothet
8	37	71.2	555	1	RGASWA	regulatory protein
9	36	69.2	133	2	I38663	melanoma antigen M
10	36	69.2	314	2	JC2361	melanoma antigen M
11	36	69.2	314	2	JC2360	melanoma antigen M
12	36	69.2	1375	2	T37672	probable DNA repai
13	36	69.2	3396	1	A42551	genome polyprotein
14	35	67.3	98	2	F70769	hypothetical prote
15	35	67.3	385	2	B87441	rod shape-determin
16	35	67.3	428	2	AD2938	hypothetical prote
17	35	67.3	430	2	C98344	sugar-binding prot
18	35	67.3	925	1	A39216	nucleotide diphosp
19	35	67.3	1033	2	S02168	type I site-specif
20	35	67.3	1187	2	T31351	endo-1,4-beta-xyla
21	34	65.4	197	2	A70832	hypothetical prote
22	34	65.4	215	2	T35768	hypothetical prote
23	34	65.4	224	2	T34937	hypothetical prote
24	34	65.4	322	2	AH1348	oligopeptide ABC t
25	34	65.4	370	2	S49008	fork head protein
26	34	65.4	497	1	S33938	penton protein (II
27	34	65.4	668	2	T18635	hypothetical prote
28	34	65.4	749	2	H82691	topoisomerase IV s
29	34	65.4	878	2	S44543	hypothetical prote
30	34	65.4	1184	2	T09484	cartilage intermed
31	34	65.4	1670	2	S71551	DNA-directed DNA p
32	34	65.4	3942	2	T42730	Basscon protein -
33	33	63.5	214	2	AH0308	conserved hypothet
34	33	63.5	246	2	T51967	proteasome endopep
35	33	63.5	288	2	A56279	carbon-monoxide de
36	33	63.5	295	2	C69180	adhesion protein -
37	33	63.5	299	2	H82907	pseudouridine synt
38	33	63.5	301	2	C71194	hypothetical prote
39	33	63.5	341	2	T07148	G-box binding fact
40	33	63.5	372	2	S32581	lignin peroxidase
41	33	63.5	388	2	C90059	3-hydroxy-3-methyl
42	33	63.5	457	2	T39751	major facilitator
43	33	63.5	488	1	S55874	sulfite oxidase (E
44	33	63.5	488	1	A53107	sulfite oxidase (E
45	33	63.5	597	1	S37849	DNA intrastrand cr

ALIGNMENTS

RESULT 1
JC2358
melanoma antigen MAGE-1 - human
C;Species: Homo sapiens (man)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 18-Feb-2000
C;Accession: JC2358
R;Ding, M.; Beck, R.J.; Keller, C.J.; Fenton, R.G.
Biochem. Biophys. Res. Commun. 202, 549-555, 1994
A;Title: Cloning and analysis of MAGE-1-related genes.
A;Reference number: JC2358; MUID:94311935; PMID:8037761
A;Accession: JC2358
A;Molecule type: mRNA
A;Residues: 1-280 <DIN>
A;Experimental source: melanoma cell line DM150
C;Genetics:
A;Gene: MAGE
C;Superfamily: tumor associated protein MAGE
F;161-169/Region: HLA-A1 binding #status predicted

Query Match 100.0%; Score 52; DB 2; Length 280;
Best Local Similarity 100.0%; Pred. No. 0.024;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db        161 EADPTGHSY 169
```

RESULT 2
I38659
melanoma antigen MAGE-10 - human
C;Species: Homo sapiens (man)
C;Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C;Accession: I38659
R;De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; B
oon, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fa
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38659
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-369 <RES>
A;Cross-references: EMBL:U10685; NID:g533510; PIDN:AAA68869.1; PID:g533511
C;Genetics:
A;Gene: GDB:MAGEA10; MAGE10
A;Cross-references: GDB:331126
A;Map position: Xq28-Xq28
A;Introns: #status absent
C;Superfamily: tumor associated protein MAGE

Query Match 84.6%; Score 44; DB 2; Length 369;

```
  Best Local Similarity   77.8%;  Pred. No. 1.1;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | ||||||:
Db        193 EVDPTGHSF 201


RESULT 3
I38667
melanoma antigen MAGE-8 - human
C;Species: Homo sapiens (man)
C;Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C;Accession: I38667
R;De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
oon, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38667
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-234 <RES>
A;Cross-references: EMBL:U10693; NID:g533525; PIDN:AAA68876.1; PID:g533526
C;Genetics:
A;Gene: GDB:MAGEA8; MAGE8
A;Cross-references: GDB:331123
A;Map position: Xq28-Xq28
A;Introns: #status absent
C;Superfamily: tumor associated protein MAGE

  Query Match             82.7%;  Score 43;  DB 2;  Length 234;
  Best Local Similarity   77.8%;  Pred. No. 1.1;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || ||||
Db        171 EVDPAGHSY 179


RESULT 4
I38668
melanoma antigen MAGE-9 - human
C;Species: Homo sapiens (man)
C;Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C;Accession: I38668
R;De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
oon, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38668
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-315 <RES>
A;Cross-references: EMBL:U10694; NID:g533527; PIDN:AAA68877.1; PID:g533528
C;Genetics:
A;Gene: GDB:MAGEA9; MAGE9
A;Cross-references: GDB:331125
A;Map position: Xp21.3-Xp21.3
A;Introns: #status absent
C;Superfamily: tumor associated protein MAGE

  Query Match             82.7%;  Score 43;  DB 2;  Length 315;
  Best Local Similarity   77.8%;  Pred. No. 1.5;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || ||||
Db        167 EVDPAGHSY 175


RESULT 5
I38660
melanoma antigen MAGE-11 - human
C;Species: Homo sapiens (man)
C;Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 18-Feb-2000
C;Accession: I38660
R;De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
oon, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38660
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-319 <RES>
A;Cross-references: EMBL:U10686; NID:g533512; PIDN:AAA68870.1; PID:g533513
C;Genetics:
A;Gene: GDB:MAGEA11; MAGE11
A;Cross-references: GDB:331128
A;Map position: Xq28-Xq28
A;Introns: #status absent
C;Superfamily: tumor associated protein MAGE

  Query Match             80.8%;  Score 42;  DB 2;  Length 319;
  Best Local Similarity   77.8%;  Pred. No. 2.3;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | ||| |||
Db        171 EVDPTSHSY 179


RESULT 6
E72685
hypothetical protein APE0901 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Jun-2000
C;Accession: E72685
R;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Takah
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; K
DNA Res. 6, 83-101, 1999
A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyr
A;Reference number: A72450; MUID:99310339; PMID:10382966
A;Accession: E72685
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-129 <KAW>
A;Cross-references: DDBJ:AP000060; NID:g5104188; PIDN:BAA79885.1; PID:g5104570
A;Experimental source: strain K1
C;Genetics:
A;Gene: APE0901
C;Superfamily: Aeropyrum pernix hypothetical protein APE0901

  Query Match             73.1%;  Score 38;  DB 2;  Length 129;
  Best Local Similarity   85.7%;  Pred. No. 5.1;
  Matches    6;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 DPTGHSY 9
              || ||||
Db        115 DPAGHSY 121


RESULT 7
H83287
conserved hypothetical protein PA2875 [imported] - Pseudomonas aeruginosa (strain PAO1)
C;Species: Pseudomonas aeruginosa
C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
C;Accession: H83287
R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br
adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim,
.; Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic patho
A;Reference number: A82950; MUID:20437337; PMID:10984043
```

A;Accession: H83287
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-305 <STO>
A;Cross-references: GB:AE004713; GB:AE004091; NID:g9948952; PIDN:AAG06263.1; GSPDB:GN001
A;Experimental source: strain PAO1
C;Genetics:
A;Gene: PA2875
C;Superfamily: methanol dehydrogenase regulatory protein

Query Match 73.1%; Score 38; DB 2; Length 305;
Best Local Similarity 85.7%; Pred. No. 13;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGH 7
:||||||
Db 283 QADPTGH 289

RESULT 8
RGASWA
regulatory protein wetA - Emericella nidulans
C;Species: Emericella nidulans, Aspergillus nidulans
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 16-Jul-1999
C;Accession: A39665
R;Marshall, M.A.; Timberlake, W.E.
Mol. Cell. Biol. 11, 55-62, 1991
A;Title: Aspergillus nidulans wetA activates spore-specific gene expression.
A;Reference number: A39665; MUID:91094871; PMID:1986246
A;Accession: A39665
A;Molecule type: DNA
A;Residues: 1-555 <MAR>
A;Cross-references: GB:M60528; GB:M35758; NID:g168108; PIDN:AAA33330.1; PID:g168109
C;Comment: The products of the genes brlA, abaA, and wetA are required for activation of
C;Genetics:
A;Gene: wetA
C;Superfamily: regulatory protein wetA
C;Keywords: transcription regulation

Query Match 71.2%; Score 37; DB 1; Length 555;
Best Local Similarity 87.5%; Pred. No. 37;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EADPTGHS 8
||| ||||
Db 109 EADATGHS 116

RESULT 9
I38663
melanoma antigen MAGE-5 - human (fragments)
C;Species: Homo sapiens (man)
C;Date: 07-Jun-1996 #sequence_revision 18-Feb-2000 #text_change 18-Feb-2000
C;Accession: I38663; I38664; PH1299; PH1300
R;De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
oon, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38663
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-124 <DEP1>
A;Cross-references: EMBL:U10689; NID:g533518; PIDN:AAA68873.1; PID:g533519
A;Experimental source: MAGE-5a antigen
A;Accession: I38664
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-124 <DEP2>
A;Cross-references: EMBL:U10690; NID:g533520; PIDN:AAA68874.1; PID:g533521
A;Experimental source: MAGE-5b antigen
A;Note: these sequences seem to be incomplete with respect to other members of the super
R;Traversari, C.; van der Bruggen, P.; Luescher, I.F.; Lurquin, C.; Chomez, P.; Van Pel,
J. Exp. Med. 176, 1453-1457, 1992
A;Title: A nonapeptide encoded by human gene MAGE-1 is recognized on HLA-A1 by cytolyti
A;Reference number: PH1294; MUID:93018875; PMID:1402688
A;Accession: PH1299
A;Molecule type: DNA
A;Residues: 125-133 <TRA1>
A;Experimental source: MAGE 5 protein
A;Accession: PH1300
A;Molecule type: DNA
A;Residues: 125-133 <TRA2>
A;Experimental source: MAGE 51 protein
C;Genetics:
A;Gene: GDB:MAGEA5; MAGE5
A;Cross-references: GDB:331120
A;Map position: Xq28-Xq28
A;Introns: #status absent
C;Superfamily: tumor associated protein MAGE

Query Match 69.2%; Score 36; DB 2; Length 133;
Best Local Similarity 66.7%; Pred. No. 13;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||| ::|
Db 125 EADPTSNTY 133

RESULT 10
JC2361
melanoma antigen MAGE-3 - human
N;Alternate names: MAGE 3 protein
C;Species: Homo sapiens (man)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 18-Feb-2000
C;Accession: JC2361; PH1296; I38438
R;Ding, M.; Beck, R.J.; Keller, C.J.; Fenton, R.G.
Biochem. Biophys. Res. Commun. 202, 549-555, 1994
A;Title: Cloning and analysis of MAGE-1-related genes.
A;Reference number: JC2358; MUID:94311935; PMID:8037761
A;Accession: JC2361
A;Molecule type: mRNA
A;Residues: 1-314 <DIN>
A;Experimental source: melanoma cell line DM150
R;Traversari, C.; van der Bruggen, P.; Luescher, I.F.; Lurquin, C.; Chomez, P.; Van Pel,
J. Exp. Med. 176, 1453-1457, 1992
A;Title: A nonapeptide encoded by human gene MAGE-1 is recognized on HLA-A1 by cytolyti
A;Reference number: PH1294; MUID:93018875; PMID:1402688
A;Accession: PH1296
A;Molecule type: DNA
A;Residues: 168-176 <TRA>
R;Gaugler, B.; Van den Eynde, B.; van der Bruggen, P.; Romero, P.; Gaforio, J.J.; De Pl
J. Exp. Med. 179, 921-930, 1994
A;Title: Human gene MAGE-3 codes for an antigen recognized on a melanoma by autologous
A;Reference number: I38438; MUID:94157413; PMID:8113684
A;Accession: I38438
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-314 <RES>
A;Cross-references: EMBL:U03735; NID:g468825; PIDN:AAA17446.1; PID:g468826
C;Genetics:
A;Gene: MAGE-3
C;Superfamily: tumor associated protein MAGE
F;168-176/Region: HLA-A1 binding #status predicted

Query Match 69.2%; Score 36; DB 2; Length 314;
Best Local Similarity 66.7%; Pred. No. 31;
Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
| || || |
Db 168 EVDPIGHLY 176

RESULT 11

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JC2360
melanoma antigen MAGE-6 - human
N;Alternate names: tumor-associated antigen, MAGE-3b
C;Species: Homo sapiens (man)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 18-Feb-2000
C;Accession: JC2360; PH1301; I38665; G01445
R;Ding, M.; Beck, R.J.; Keller, C.J.; Fenton, R.G.
Biochem. Biophys. Res. Commun. 202, 549-555, 1994
A;Title: Cloning and analysis of MAGE-1-related genes.
A;Reference number: JC2358; MUID:94311935; PMID:8037761
A;Accession: JC2360
A;Molecule type: mRNA
A;Residues: 1-314 <DIN>
A;Experimental source: melanoma cell line DM150
R;Traversari, C.; van der Bruggen, P.; Luescher, I.F.; Lurquin, C.; Chomez, P.; Van Pel,
J. Exp. Med. 176, 1453-1457, 1992
A;Title: A nonapeptide encoded by human gene MAGE-1 is recognized on HLA-A1 by cytolytic
A;Reference number: PH1294; MUID:93018875; PMID:1402688
A;Accession: PH1301
A;Molecule type: DNA
A;Residues: 168-176 <TRA>
R;De Plaen, E.; Arden, K.; Traversari, C.; Gaforio, J.J.; Szikora, J.P.; De Smet, C.; Br
oon, T.
Immunogenetics 40, 360-369, 1994
A;Title: Structure, chromosomal localization, and expression of 12 genes of the MAGE fam
A;Reference number: I38659; MUID:95012457; PMID:7927540
A;Accession: I38665
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-314 <RES>
A;Cross-references: EMBL:U10691; NID:g533522; PIDN:AAA68875.1; PID:g533523
R;Fenton, R.G.
submitted to the EMBL Data Library, June 1994
A;Reference number: G07126
A;Accession: G01445
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-314 <FEN>
A;Cross-references: EMBL:U10339; NID:g499121; PIDN:AAA19006.1; PID:g499122
C;Genetics:
A;Gene: GDB:MAGEA6; MAGE6
A;Cross-references: GDB:331121
A;Map position: Xq28-Xq28
A;Introns: #status absent
C;Superfamily: tumor associated protein MAGE
F;168-176/Region: HLA-A1 binding #status predicted

  Query Match             69.2%;  Score 36;  DB 2;  Length 314;
  Best Local Similarity   66.7%;  Pred. No. 31;
  Matches    6;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || || |
Db        168 EVDPIGHVY 176


RESULT 12
T37672
probable DNA repair protein - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 02-Sep-2000
C;Accession: T37672
R;McDougall, R.C.; Rajandream, M.A.; Barrell, B.G.; Davis, P.; Churcher, C.M.
submitted to the EMBL Data Library, October 1999
A;Reference number: Z21736
A;Accession: T37672
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1375 <MCD>
A;Cross-references: EMBL:AL132675; PIDN:CAB59685.1; GSPDB:GN00066; SPDB:SPAC144.05
A;Experimental source: strain 972h-; cosmid c144
C;Genetics:
A;Gene: SPDB:SPAC144.05
A;Map position: 1
A;Introns: 1108/1; 1196/3; 1263/2; 1277/1
C;Superfamily: RING finger homology
F;1088-1135/Domain: RING finger homology <RRN>

  Query Match             69.2%;  Score 36;  DB 2;  Length 1375;
  Best Local Similarity   66.7%;  Pred. No. 1.5e+02;
  Matches    6;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |:|||  |
Db        810 ESDPTGDEY 818


RESULT 13
A42551
genome polyprotein - dengue virus type 1 (strain Singapore S275/90)
N;Contains: capsid protein; envelope protein; membrane protein; nonstructural protein NS
a; nonstructural protein NS4b; nonstructural protein NS5
C;Species: dengue virus type 1
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 19-Jan-2001
C;Accession: A42551
R;Fu, J.; Tan, B.H.; Yap, E.H.; Chan, Y.C.; Tan, Y.H.
Virology 188, 953-958, 1992
A;Title: Full-length cDNA sequence of dengue type 1 virus (Singapore strain S275/90).
A;Reference number: A42551; MUID:92263809; PMID:1585663
A;Accession: A42551
A;Molecule type: genomic RNA
A;Residues: 1-3396 <FUJ>
A;Cross-references: GB:M87512
C;Superfamily: yellow fever virus genome polyprotein
C;Keywords: ATP; capsid protein; envelope protein; glycoprotein; nonstructural protein;
F;1-114/Product: capsid protein #status predicted <CAP>
F;115-281/Product: membrane protein precursor #status predicted <MEP>
F;115-204/Domain: nonterminal signal sequence #status predicted <SIG>
F;205-281/Product: membrane protein #status predicted <MEM>
F;267-279/Domain: transmembrane #status predicted <TM1>
F;282-774/Product: envelope protein #status predicted <ENV>
F;753-769/Domain: transmembrane #status predicted <TM2>
F;775-1127/Product: nonstructural protein NS1 #status predicted <NS1>
F;1128-1344/Product: nonstructural protein NS2a #status predicted <N2A>
F;1345-1474/Product: nonstructural protein NS2b #status predicted <N2B>
F;1475-2093/Product: nonstructural protein NS3 #status predicted <NS3>
F;1668-1675/Region: nucleotide-binding motif A (P-loop)
F;1755-1760/Region: nucleotide-binding motif B
F;1759-1762/Region: DEAH motif
F;2094-2243/Product: nonstructural protein NS4a #status predicted <N4A>
F;2244-2492/Product: nonstructural protein NS4b #status predicted <N4B>
F;2493-3396/Product: nonstructural protein NS5 #status predicted <NS5>
F;183,347,433/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             69.2%;  Score 36;  DB 1;  Length 3396;
  Best Local Similarity   75.0%;  Pred. No. 3.9e+02;
  Matches    6;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHS 8
              |:|| |||
Db       3383 ESDPKGHS 3390


RESULT 14
F70769
hypothetical protein Rv1322 - Mycobacterium tuberculosis (strain H37RV)
C;Species: Mycobacterium tuberculosis
C;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 22-Oct-1999
C;Accession: F70769
R;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S
; Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holroyd, S.
Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Nature 393, 537-544, 1998
A;Authors: Sqares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.
A;Title: Deciphering the biology of Mycobacterium tuberculosis from the complete genome
A;Reference number: A70500; MUID:98295987; PMID:9634230
```

```
A;Accession: F70769
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-98 <COL>
A;Cross-references: GB:Z73902; GB:AL123456; NID:g3261576; PIDN:CAA98086.1; PID:e245016;
A;Experimental source: strain H37Rv
C;Genetics:
A;Gene: Rv1322

  Query Match           67.3%;  Score 35;  DB 2;  Length 98;
  Best Local Similarity   66.7%;  Pred. No. 14;
  Matches    6;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              || | || |
Db         24 EAGPDGHEY 32


RESULT 15
B87441
rod shape-determining protein RodA [imported] - Caulobacter crescentus
C;Species: Caulobacter crescentus
C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 10-May-2001
C;Accession: B87441
R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J.
 B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolon
n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M.
Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
A;Accession: B87441
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-385 <STO>
A;Cross-references: GB:AE005673; NID:g13422932; PIDN:AAK23526.1; GSPDB:GN00148
C;Genetics:
A;Gene: CC1547
C;Superfamily: rod shape-determining protein

  Query Match           67.3%;  Score 35;  DB 2;  Length 385;
  Best Local Similarity   66.7%;  Pred. No. 61;
  Matches    6;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              ||||:|  |
Db        228 EADPSGKGY 236


Search completed: April  5, 2004, 15:05:53
Job time : 13.6667 secs
```

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: April 5, 2004, 14:56:31 ; Search time 8 Seconds
(without alignments)
58.579 Million cell updates/sec

Title: US-09-766-889C-8
Perfect score: 52
Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	52	100.0	309	1	MAG1_HUMAN	P43355 homo sapien
2	44	84.6	369	1	MAGA_HUMAN	P43363 homo sapien
3	43	82.7	234	1	MAG8_HUMAN	P43361 homo sapien
4	43	82.7	315	1	MAG9_HUMAN	P43362 homo sapien
5	42	80.8	319	1	MAGB_HUMAN	P43364 homo sapien
6	40	76.9	259	1	PYRK_BACAA	Q81wf3 bacillus an
7	40	76.9	259	1	PYRK_BACCR	Q819s4 bacillus ce
8	37	71.2	555	1	WETA_EMENI	P22022 emericella
9	36	69.2	314	1	MAG3_HUMAN	P43357 homo sapien
10	36	69.2	314	1	MAG6_HUMAN	P43360 homo sapien
11	36	69.2	3396	1	POLG_DEN1S	P33478 d genome po
12	35	67.3	98	1	YD22_MYCTU	Q10635 mycobacteri
13	35	67.3	151	1	YD97_THETN	Q8ra33 thermoanaer
14	35	67.3	346	1	MGB4_HUMAN	O15481 homo sapien
15	35	67.3	520	1	PKN2_COREF	Q8fui4 corynebacte
16	35	67.3	925	1	NPP1_HUMAN	P22413 h ectonucle
17	35	67.3	1033	1	T1R1_ECOLI	P10486 escherichia
18	34	65.4	267	1	MLF1_MOUSE	Q9qwv4 mus musculu
19	34	65.4	268	1	MLF1_HUMAN	P58340 homo sapien
20	34	65.4	308	1	DDLB_RHILO	Q98kb6 rhizobium l
21	34	65.4	347	1	MGB1_HUMAN	P43366 homo sapien
22	34	65.4	497	1	PEN3_ADE12	P36716 human adeno
23	34	65.4	878	1	YB9X_YEAST	P38149 saccharomyc
24	34	65.4	1671	1	DPOL_PYRKO	P77933 pyrococcus
25	33	63.5	246	1	PS61_ARATH	O81146 arabidopsis
26	33	63.5	246	1	PS62_ARATH	O81147 arabidopsis
27	33	63.5	251	1	PQQC_PSESM	Q88a82 pseudomonas
28	33	63.5	288	1	DCMM_OLICA	P19920 oligotropha
29	33	63.5	372	1	LIGC_TRAVE	P20013 trametes ve
30	33	63.5	453	1	AMNL_HUMAN	Q9bxj7 homo sapien
31	33	63.5	488	1	SUOX_HUMAN	P51687 homo sapien
32	33	63.5	488	1	SUOX_MOUSE	Q8r086 mus musculu
33	33	63.5	488	1	SUOX_RAT	Q07116 rattus norv
34	33	63.5	503	1	VP57_BDV	P52638 borna disea
35	33	63.5	573	1	SUOX_DROME	Q9vwp4 drosophila
36	33	63.5	597	1	IXR1_YEAST	P33417 saccharomyc
37	33	63.5	747	1	GUND_CELFI	P50400 cellulomona
38	33	63.5	775	1	DPOL_THES9	Q56366 thermococcu
39	33	63.5	1039	1	M2C1_MOUSE	Q91w89 mus musculu
40	33	63.5	1040	1	M2C1_RAT	P21139 rattus norv
41	33	63.5	1523	1	DPOL_THEFM	P74918 thermococcu
42	33	63.5	1668	1	DPOL_THEHY	Q9hh05 thermococcu
43	33	63.5	2273	1	HFA1_YEAST	P32874 saccharomyc
44	32	61.5	133	1	REV_CAEVC	P33460 caprine art
45	32	61.5	173	1	YCF3_SYNEL	Q8diq6 synechococc

ALIGNMENTS

RESULT 1
MAG1_HUMAN
ID MAG1_HUMAN STANDARD; PRT; 309 AA.
AC P43355; O00346;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Melanoma-associated antigen 1 (MAGE-1 antigen) (Antigen MZ2-E).
GN MAGEA1 OR MAGE1 OR MAGE1A.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92086861; PubMed=1840703;
RA van der Bruggen P., Traversari C., Chomez P., Lurquin C., de Plaen E.,
RA van den Eynde B., Knuth A., Boon T.;
RT "A gene encoding an antigen recognized by cytolytic T lymphocytes on
RT a human melanoma.";
RL Science 254:1643-1647(1991).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Skin;
RX MEDLINE=94311935; PubMed=8037761;
RA Ding M., Beck R.J., Keller C.J., Fenton R.G.;
RT "Cloning and analysis of MAGE-1-related genes.";
RL Biochem. Biophys. Res. Commun. 202:549-555(1994).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=20314869; PubMed=10854409;
RA Mallon A.M., Platzer M., Bates R., Gloeckner G., Botcherby M.,
RA Nordsiek G., Strivens M.A., Kioschis P., Dangel A., Cunningham D.,
RA Straw R., Weston P., Hunter C., Gilbert M., Fernando S., Goodall K.,
RA Kerry G., Greystrong J.S., Clark D., Goerdes M., Blechschmidt K.,
RA Rump A., Hinzmann B., Mundy C.R., Miller W., Poustka A., Herman G.E.,
RA Rhodes M., Denny P., Rosenthal A., Brown S.D.M.;
RT "Comparative genome sequence analysis of the Bpa/Str region in mouse
RT and man.";
RL Genome Res. 10:758-775(2000).
RN [4]
RP SEQUENCE FROM N.A., AND VARIANT ALA-32.
RA Chen H., Wang L., Mei M., Qin L., Cong X., Xu J., Wei L., Wang Y.,
RA Chen W.;
RT "The polymorphism of MAGE-1 gene in Chinese people.";
RL Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
RN [5]
RP MUTAGENESIS.
RC TISSUE=Blood;
RX MEDLINE=94157413; PubMed=8113684;
RA Gaugler B., van den Eynde B., van der Bruggen P., Romero P.,
RA Gaforio J.J., de Plaen E., Lethe B., Brasseur F., Boon T.;
RT "Human gene MAGE-3 codes for an antigen recognized on a melanoma by
RT autologous cytolytic T lymphocytes.";
RL J. Exp. Med. 179:921-930(1994).
RN [6]

```
RP   SUBCELLULAR LOCATION.
RX   MEDLINE=95012905; PubMed=7927954;
RA   Schultz-Thater E., Juretic A., Dellabona P., Luscher U., Siegrist W.,
RA   Harder F., Heberer M., Zuber M., Spagnoli G.C.;
RT   "MAGE-1 gene product is a cytoplasmic protein.";
RL   Int. J. Cancer 59:435-439(1994).
CC   -!- FUNCTION: Not known, though may play a role in embryonal
CC       development and tumor transformation or aspects of tumor
CC       progression. Antigen recognized on a melanoma by autologous
CC       cytolytic T lymphocytes.
CC   -!- SUBCELLULAR LOCATION: Cytoplasmic.
CC   -!- TISSUE SPECIFICITY: Expressed in many tumors of several types,
CC       such as melanoma, head and neck squamous cell carcinoma, lung
CC       carcinoma and breast carcinoma, but not in normal tissues except
CC       for testes. Never expressed in kidney tumors, leukemias and
CC       lymphomas.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M77481; AAA03229.1; -.
DR   EMBL; U82670; -; NOT_ANNOTATED_CDS.
DR   EMBL; AY148486; AAN62752.1; -.
DR   Genew; HGNC:6796; MAGEA1.
DR   MIM; 300016; -.
DR   GO; GO:0005886; C:plasma membrane; TAS.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family; Polymorphism; Tumor antigen.
FT   DOMAIN      102    301       MAGE.
FT   DOMAIN       33     36       POLY-SER.
FT   VARIANT      32     32       T -> A (probable polymorphism).
FT                                /FTId=VAR_004283.
FT   VARIANT      72     72       R -> Q (in dbSNP:2008144).
FT                                /FTId=VAR_011737.
FT   MUTAGEN     163    163       D->A: ABOLISHES HLA-A1 BINDING.
FT   MUTAGEN     169    169       Y->A: ABOLISHES HLA-A1 BINDING.
SQ   SEQUENCE   309 AA;  34342 MW;  544EEB1F9F4E9D33 CRC64;

  Query Match             100.0%;  Score 52;  DB 1;  Length 309;
  Best Local Similarity   100.0%;  Pred. No. 0.01;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db        161 EADPTGHSY 169


RESULT 2
MAGA_HUMAN
ID   MAGA_HUMAN     STANDARD;      PRT;   369 AA.
AC   P43363;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Melanoma-associated antigen 10 (MAGE-10 antigen).
GN   MAGEA10 OR MAGE10.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95012457; PubMed=7927540;
RA   de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
RA   de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
RA   Brasseur R., Chomez P., de Backer O., Cavenee W., Boon T.;
RT   "Structure, chromosomal localization, and expression of 12 genes of
RT   the MAGE family.";
RL   Immunogenetics 40:360-369(1994).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Skin;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN EMBRYONAL
CC       DEVELOPMENT AND TUMOR TRANSFORMATION OR ASPECTS OF TUMOR
CC       PROGRESSION.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
CC       SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CC       CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
CC       FOR TESTES AND PLACENTA.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U10685; AAA68869.1; -.
DR   EMBL; BC004105; AAH04105.1; -.
DR   PIR; I38659; I38659.
DR   Genew; HGNC:6797; MAGEA10.
DR   MIM; 300343; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family; Tumor antigen.
FT   DOMAIN      134    333       MAGE.
FT   DOMAIN       54     62       POLY-SER.
SQ   SEQUENCE   369 AA;  40766 MW;  16FA3301CAB716A6 CRC64;

  Query Match             84.6%;  Score 44;  DB 1;  Length 369;
  Best Local Similarity   77.8%;  Pred. No. 0.45;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | ||||||:
Db        193 EVDPTGHSF 201


RESULT 3
MAG8_HUMAN
ID   MAG8_HUMAN     STANDARD;      PRT;   234 AA.
AC   P43361;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
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```
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Melanoma-associated antigen 8 (MAGE-8 antigen).
GN   MAGEA8 OR MAGE8.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95012457; PubMed=7927540;
RA   de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
RA   de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
RA   Brasseur R., Chomez P., de Backer O., Cavenee W., Boon T.;
RT   "Structure, chromosomal localization, and expression of 12 genes of
RT   the MAGE family.";
RL   Immunogenetics 40:360-369(1994).
CC   -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN EMBRYONAL
CC       DEVELOPMENT AND TUMOR TRANSFORMATION OR ASPECTS OF TUMOR
CC       PROGRESSION.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
CC       SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CC       CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
CC       FOR TESTES AND PLACENTA.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
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CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U10693; AAA68876.1; -.
DR   PIR; I38667; I38667.
DR   Genew; HGNC:6806; MAGEA8.
DR   MIM; 300341; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family; Tumor antigen.
FT   DOMAIN      112    234       MAGE.
FT   DOMAIN       40     43       POLY-SER.
SQ   SEQUENCE   234 AA;  25197 MW;  058A92EE6003A982 CRC64;

  Query Match             82.7%;  Score 43;  DB 1;  Length 234;
  Best Local Similarity   77.8%;  Pred. No. 0.43;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || |||| .
Db        171 EVDPAGHSY 179


RESULT 4
MAG9_HUMAN
ID   MAG9_HUMAN     STANDARD;      PRT;   315 AA.
AC   P43362; Q92910;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Melanoma-associated antigen 9 (MAGE-9 antigen).
GN   MAGEA9 OR MAGE9.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95012457; PubMed=7927540;
RA   de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
RA   de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
RA   Brasseur R., Chomez P., de Backer O., Cavenee W., Boon T.;
RT   "Structure, chromosomal localization, and expression of 12 genes of
RT   the MAGE family.";
RL   Immunogenetics 40:360-369(1994).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Timms K.M., Bondeson M.L., Ansari-Lari M.A., Lagerstedt K.,
RA   Nelson D.L., Pettersson U., Gibbs R.A.;
RL   Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Lung;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN EMBRYONAL
CC       DEVELOPMENT AND TUMOR TRANSFORMATION OR ASPECTS OF TUMOR
CC       PROGRESSION.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
CC       SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CC       CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
CC       FOR TESTES AND PLACENTA.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U10694; AAA68877.1; -.
DR   EMBL; U66083; AAB67888.1; -.
DR   EMBL; BC002351; AAH02351.1; -.
DR   PIR; I38668; I38668.
DR   Genew; HGNC:6807; MAGEA9.
DR   MIM; 300342; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family; Tumor antigen.
FT   DOMAIN      108    307       MAGE.
FT   DOMAIN       34     37       POLY-GLU.
FT   DOMAIN       87     90       POLY-GLU.
SQ   SEQUENCE   315 AA;  35088 MW;  7FD2ED10D680D928 CRC64;

  Query Match             82.7%;  Score 43;  DB 1;  Length 315;
  Best Local Similarity   77.8%;  Pred. No. 0.59;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || |||| .
Db        167 EVDPAGHSY 175
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RESULT 5
MAGB_HUMAN
ID   MAGB_HUMAN      STANDARD;      PRT;   319 AA.
AC   P43364;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Melanoma-associated antigen 11 (MAGE-11 antigen).
GN   MAGEA11 OR MAGE11.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95012457; PubMed=7927540;
RA   de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
RA   de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
RA   Brasseur R., Chomez P., de Backer O., Cavenee W., Boon T.;
RT   "Structure, chromosomal localization, and expression of 12 genes of
RT   the MAGE family.";
RL   Immunogenetics 40:360-369(1994).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Skin;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN EMBRYONAL
CC       DEVELOPMENT AND TUMOR TRANSFORMATION OR ASPECTS OF TUMOR
CC       PROGRESSION.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
CC       SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CC       CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
CC       FOR TESTES AND PLACENTA.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U10686; AAA68870.1; -.
DR   EMBL; BC004479; AAH04479.1; -.
DR   PIR; I38660; I38660.
DR   Genew; HGNC:6798; MAGEA11.
DR   MIM; 300344; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family; Tumor antigen.
FT   DOMAIN      112    311       MAGE.
SQ   SEQUENCE   319 AA;  35536 MW;  F51A0B4140277BE3 CRC64;

  Query Match             80.8%;  Score 42;  DB 1;  Length 319;
  Best Local Similarity   77.8%;  Pred. No. 0.93;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | ||| |||
Db        171 EVDPTSHSY 179


RESULT 6
PYRK_BACAA
ID   PYRK_BACAA      STANDARD;      PRT;   259 AA.
AC   Q81WF3;
DT   15-MAR-2004 (Rel. 43, Created)
DT   15-MAR-2004 (Rel. 43, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Dihydroorotate dehydrogenase electron transfer subunit.
GN   PYRK OR BA4024.
OS   Bacillus anthracis (strain Ames).
OC   Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
OX   NCBI_TaxID=198094;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22608414; PubMed=12721629;
RA   Read T.D., Peterson S.N., Tourasse N., Baillie L.W., Paulsen I.T.,
RA   Nelson K.E., Tettelin H., Fouts D.E., Eisen J.A., Gill S.R.,
RA   Holtzapple E.K., Okstad O.A., Helgason E., Rilstone J., Wu M.,
RA   Kolonay J.F., Beanan M.J., Dodson R.J., Brinkac L.M., Gwinn M.,
RA   DeBoy R.T., Madpu R., Daugherty S.C., Durkin A.S., Haft D.H.,
RA   Nelson W.C., Peterson J.D., Pop M., Khouri H.M., Radune D.,
RA   Benton J.L., Mahamoud Y., Jiang L., Hance I.R., Weidman J.F.,
RA   Berry K.J., Plaut R.D., Wolf A.M., Watkins K.L., Nierman W.C.,
RA   Hazen A., Cline R., Redmond C., Thwaite J.E., White O., Salzberg S.L.,
RA   Thomason B., Friedlander A.M., Koehler T.M., Hanna P.C., Kolsto A.-B.,
RA   Fraser C.M.;
RT   "The genome sequence of Bacillus anthracis Ames and comparison to
RT   closely related bacteria.";
RL   Nature 423:81-86(2003).
CC   -!- FUNCTION: Is responsible for channelling the electrons from the
CC       oxidation of dihydroorotate from the FMN redox center in the pyrD
CC       subunit to the ultimate electron acceptor NAD(+) (By similarity).
CC   -!- COFACTOR: Binds 1 2Fe-2S cluster and 1 FAD per subunit (By
CC       similarity).
CC   -!- PATHWAY: Pyrimidine biosynthesis; fourth step.
CC   -!- SUBUNIT: Heterotetramer of 2 pyrK and 2 pyrD subunits (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the pyrK family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; AE017036; AAP27751.1; -.
DR   TIGR; BA4024; -.
DR   HAMAP; MF_01211; -; 1.
DR   InterPro; IPR001834; Cyt_B5_reductase.
DR   InterPro; IPR008333; FAD_binding_6.
DR   InterPro; IPR000951; Phdiox_reductase.
DR   Pfam; PF00970; FAD_binding_6; 1.
DR   PRINTS; PR00406; CYTB5RDTASE.
DR   PRINTS; PR00409; PHDIOXRDTASE.
DR   PROSITE; PS00197; 2FE2S_FERREDOXIN; FALSE_NEG.
KW   Pyrimidine biosynthesis; Transport; Electron transport; Metal-binding;
KW   Iron; Iron-sulfur; 2Fe-2S; Flavoprotein; FAD; Complete proteome.
FT   METAL       221    221       IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
FT   METAL       226    226       IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
FT   METAL       229    229       IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).
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FT   METAL       246    246       IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).
SQ   SEQUENCE   259 AA;  28439 MW;  DC2768827E220805 CRC64;

  Query Match             76.9%;  Score 40;  DB 1;  Length 259;
  Best Local Similarity   66.7%;  Pred. No. 1.8;
  Matches    6;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              : ||:||||
Db        234 QEDPSGHSY 242


RESULT 7
PYRK_BACCR
ID   PYRK_BACCR     STANDARD;      PRT;   259 AA.
AC   Q81954;
DT   15-MAR-2004 (Rel. 43, Created)
DT   15-MAR-2004 (Rel. 43, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Dihydroorotate dehydrogenase electron transfer subunit.
GN   PYRK OR BC3885.
OS   Bacillus cereus (strain ATCC 14579 / DSM 31).
OC   Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
OX   NCBI_TaxID=226900;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22608415; PubMed=12721630;
RA   Ivanova N., Sorokin A., Anderson I., Galleron N., Candelon B.,
RA   Kapatral V., Bhattacharyya A., Reznik G., Mikhailova N., Lapidus A.,
RA   Chu L., Mazur M., Goltsman E., Larsen N., D'Souza M., Walunas T.,
RA   Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Ehrlich S.D.,
RA   Overbeek R., Kyrpides N.;
RT   "Genome sequence of Bacillus cereus and comparative analysis with
RT   Bacillus anthracis.";
RL   Nature 423:87-91(2003).
CC   -!- FUNCTION: Is responsible for channelling the electrons from the
CC       oxidation of dihydroorotate from the FMN redox center in the pyrD
CC       subunit to the ultimate electron acceptor NAD(+) (By similarity).
CC   -!- COFACTOR: Binds 1 2Fe-2S cluster and 1 FAD per subunit (By
CC       similarity).
CC   -!- PATHWAY: Pyrimidine biosynthesis; fourth step.
CC   -!- SUBUNIT: Heterotetramer of 2 pyrK and 2 pyrD subunits (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the pyrK family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; AE017010; AAP10806.1; -.
DR   HAMAP; MF_01211; -; 1.
DR   InterPro; IPR001834; Cyt_B5_reductase.
DR   InterPro; IPR008333; FAD_binding_6.
DR   InterPro; IPR000951; Phdiox_reductase.
DR   Pfam; PF00970; FAD_binding_6; 1.
DR   PRINTS; PR00406; CYTB5RDTASE.
DR   PRINTS; PR00409; PHDIOXRDTASE.
DR   PROSITE; PS00197; 2FE2S_FERREDOXIN; FALSE_NEG.
KW   Pyrimidine biosynthesis; Transport; Electron transport; Metal-binding;
KW   Iron; Iron-sulfur; 2Fe-2S; Flavoprotein; FAD; Complete proteome.
FT   METAL       221    221       IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
FT   METAL       226    226       IRON-SULFUR 1 (2FE-2S) (BY SIMILARITY).
FT   METAL       229    229       IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).
FT   METAL       246    246       IRON-SULFUR 2 (2FE-2S) (BY SIMILARITY).
SQ   SEQUENCE   259 AA;  28416 MW;  D8F893A27E25919B CRC64;

  Query Match             76.9%;  Score 40;  DB 1;  Length 259;
  Best Local Similarity   66.7%;  Pred. No. 1.8;
  Matches    6;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              : ||:||||
Db        234 QEDPSGHSY 242


RESULT 8
WETA_EMENI
ID   WETA_EMENI     STANDARD;      PRT;   555 AA.
AC   P22022;
DT   01-AUG-1991 (Rel. 19, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Regulatory protein WETA.
GN   WETA.
OS   Emericella nidulans (Aspergillus nidulans).
OC   Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
OC   Eurotiales; Trichocomaceae; Emericella.
OX   NCBI_TaxID=162425;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91094871; PubMed=1986246;
RA   Marshall M.A., Timberlake W.E.;
RT   "Aspergillus nidulans wetA activates spore-specific gene expression.";
RL   Mol. Cell. Biol. 11:55-62(1991).
CC   -!- FUNCTION: Responsible for activating a set of genes whose products
CC       make up the final two conidial wall layers or direct their
CC       assembly and though this activity is responsible for acquisition
CC       of spore dormancy.
CC   -!- FUNCTION: BrlA, abaA and wetA are pivotal regulators of
CC       conidiophore development and conidium maturation. They act
CC       individually and together to regulate their own expression and
CC       that of numerous other sporulation-specific genes.
CC   -!- DEVELOPMENTAL STAGE: The wetA gene is activated only during
CC       conidiophore development, and its mRNA accumulates preferentially
CC       in mature conidia.
CC   -!- DOMAIN: Has an acidic N-terminus (AA 1-52) followed by a Ser-,
CC       Thr-, Pro-rich domain (AA 125-233) and a basic C-terminus (AA
CC       461-555).
CC   -!- SIMILARITY: TO P.CHRYSOGENUM WETA.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M60528; AAA33330.1; -.
DR   PIR; A39665; RGASWA.
KW   Developmental protein; Conidiation; Transcription regulation;
KW   Activator.
SQ   SEQUENCE   555 AA;  60275 MW;  4C9F51708D61400E CRC64;

  Query Match             71.2%;  Score 37;  DB 1;  Length 555;
  Best Local Similarity   87.5%;  Pred. No. 16;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHS 8
              ||| ||||
Db        109 EADATGHS 116


RESULT 9
MAG3_HUMAN
ID   MAG3_HUMAN     STANDARD;      PRT;   314 AA.
AC   P43357;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Melanoma-associated antigen 3 (MAGE-3 antigen) (Antigen MZ2-D).
GN   MAGEA3 OR MAGE3.
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OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A., AND MUTAGENESIS.
RC   TISSUE=Blood;
RX   MEDLINE=94157413; PubMed=8113684;
RA   Gaugler B., van den Eynde B., van der Bruggen P., Romero P.,
RA   Gaforio J.J., de Plaen E., Lethe B., Brasseur F., Boon T.;
RT   "Human gene MAGE-3 codes for an antigen recognized on a melanoma by
RT   autologous cytolytic T lymphocytes.";
RL   J. Exp. Med. 179:921-930(1994).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Skin;
RX   MEDLINE=94311935; PubMed=8037761;
RA   Ding M., Beck R.J., Keller C.J., Fenton R.G.;
RT   "Cloning and analysis of MAGE-1-related genes.";
RL   Biochem. Biophys. Res. Commun. 202:549-555(1994).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20314869; PubMed=10854409;
RA   Mallon A.M., Platzer M., Bates R., Gloeckner G., Botcherby M.,
RA   Nordsiek G., Strivens M.A., Kioschis P., Dangel A., Cunningham D.,
RA   Straw R., Weston P., Hunter C., Gilbert M., Fernando S., Goodall K.,
RA   Kerry G., Greystrong J.S., Clark D., Goerdes M., Blechschmidt K.,
RA   Rump A., Hinzmann B., Mundy C.R., Miller W., Poustka A., Herman G.E.,
RA   Rhodes M., Denny P., Rosenthal A., Brown S.D.M.;
RT   "Comparative genome sequence analysis of the Bpa/Str region in mouse
RT   and man.";
RL   Genome Res. 10:758-775(2000).
RN   [4]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Bone marrow, Lung, Prostate, and Skin;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: Not known, though may play a role in embryonal
CC       development and tumor transformation or aspects of tumor
CC       progression. Antigen recognized on a melanoma by autologous
CC       cytolytic T lymphocytes.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
CC       SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CC       CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
CC       FOR TESTES AND PLACENTA. NEVER EXPRESSED IN KIDNEY TUMORS,
CC       LEUKEMIAS AND LYMPHOMAS.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U03735; AAA17446.1; -.
DR   EMBL; U82671; -; NOT_ANNOTATED_CDS.
DR   EMBL; BC000340; AAH00340.1; -.
DR   EMBL; BC005963; AAH05963.1; -.
DR   EMBL; BC011744; AAH11744.1; -.
DR   EMBL; BC016803; AAH16803.1; -.
DR   EMBL; BC017389; AAH17389.1; -.
DR   PIR; JC2361; JC2361.
DR   Genew; HGNC:6801; MAGEA3.
DR   MIM; 300174; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family; Tumor antigen.
FT   DOMAIN      109    308       MAGE.
FT   DOMAIN       40     43       POLY-SER.
FT   MUTAGEN     170    170       D->A: ABOLISHES HLA-A1 BINDING.
FT   MUTAGEN     176    176       Y->A: ABOLISHES HLA-A1 BINDING.
SQ   SEQUENCE   314 AA;  34747 MW;  3F5EB13D1C9946A1 CRC64;

  Query Match             69.2%;  Score 36;  DB 1;  Length 314;
  Best Local Similarity   66.7%;  Pred. No. 13;
  Matches    6;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || || |
Db        168 EVDPIGHLY 176


RESULT 10
MAG6_HUMAN
ID   MAG6_HUMAN     STANDARD;      PRT;   314 AA.
AC   P43360;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Melanoma-associated antigen 6 (MAGE-6 antigen) (MAGE3B).
GN   MAGEA6 OR MAGE6.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95012457; PubMed=7927540;
RA   de Plaen E., Arden K., Traversari C., Gaforio J.J., Szikora J.-P.,
RA   de Smet C., Brasseur F., van der Bruggen P., Lethe B., Lurquin C.,
RA   Brasseur R., Chomez P., de Backer O., Cavenee W., Boon T.;
RT   "Structure, chromosomal localization, and expression of 12 genes of
RT   the MAGE family.";
RL   Immunogenetics 40:360-369(1994).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Skin;
RX   MEDLINE=94311935; PubMed=8037761;
RA   Ding M., Beck R.J., Keller C.J., Fenton R.G.;
RT   "Cloning and analysis of MAGE-1-related genes.";
RL   Biochem. Biophys. Res. Commun. 202:549-555(1994).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95369706; PubMed=7642112;
RA   Imai Y., Shichijo S., Yamada A., Katayama T., Yano H., Itoh K.;
RT   "Sequence analysis of the MAGE gene family encoding human tumor-
RT   rejection antigens.";
RL   Gene 160:287-290(1995).
RN   [4]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
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RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: NOT KNOWN, THOUGH MAY PLAY A ROLE IN TUMOR
CC       OR ASPECTS OF TUMOR PROGRESSION.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN MANY TUMORS OF SEVERAL TYPES,
CC       SUCH AS MELANOMA, HEAD AND NECK SQUAMOUS CELL CARCINOMA, LUNG
CC       CARCINOMA AND BREAST CARCINOMA, BUT NOT IN NORMAL TISSUES EXCEPT
CC       FOR TESTES.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U10691; AAA68875.1; -.
DR   EMBL; U10339; AAA19006.1; -.
DR   EMBL; D32076; BAA06842.1; -.
DR   EMBL; BC041599; AAH41599.1; -.
DR   PIR; JC2360; JC2360.
DR   Genew; HGNC:6804; MAGEA6.
DR   MIM; 300176; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family; Tumor antigen.
FT   DOMAIN      109    308       MAGE.
FT   DOMAIN       40     43       POLY-SER.
SQ   SEQUENCE   314 AA;  34891 MW;  29B83C7FA6E50263 CRC64;

  Query Match          69.2%;  Score 36;  DB 1;  Length 314;
  Best Local Similarity   66.7%;  Pred. No. 13;
  Matches    6;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || || |
Db        168 EVDPIGHVY 176


RESULT 11
POLG_DEN1S
ID   POLG_DEN1S     STANDARD;      PRT;  3396 AA.
AC   P33478;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Genome polyprotein [Contains: Capsid protein C (Core protein); Matrix
DE   protein (Envelope protein M); Major envelope protein E; Nonstructural
DE   proteins NS1, NS2A, NS2B, NS4A and NS4B; Protease/helicase
DE   (EC 3.4.21.98) (NS3); RNA-directed RNA polymerase (EC 2.7.7.48)
DE   (NS5)].
OS   Dengue virus type 1 (strain Singapore S275/90).
OC   Viruses; ssRNA positive-strand viruses, no DNA stage; Flaviviridae;
OC   Flavivirus.
OX   NCBI_TaxID=33741;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=92263809; PubMed=1585663;
RA   Fu J., Tan B.H., Yap E.H., Chan Y.C., Tan Y.H.;
RT   "Full-length cDNA sequence of dengue type 1 virus (Singapore strain
RT   S275/90).";
RL   Virology 188:953-958(1992).
CC   -!- CATALYTIC ACTIVITY: Hydrolysis of four peptide bonds in the viral
CC       precursor polyprotein, commonly with Asp or Glu in the P6
CC       position, Cys or Thr in P1 and Ser or Ala in P1'.
CC   -!- CATALYTIC ACTIVITY: N nucleoside triphosphate = N diphosphate +
CC       {RNA}(N).
CC   -!- SUBUNIT: The virion of this virus is a nucleocapsid covered by a
CC       lipoprotein envelope. The envelope consists of three proteins:
CC       protein prm, protein M and glycoprotein E. The nucleocapsid is a
CC       complex of protein C and mRNA.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M87512; -; NOT_ANNOTATED_CDS.
DR   PIR; A42551; A42551.
DR   InterPro; IPR009003; Cys_Ser_trypsin.
DR   InterPro; IPR001410; DEAD.
DR   InterPro; IPR001122; Flavi_capsidC.
DR   InterPro; IPR000336; Flavi_glycoprotE.
DR   InterPro; IPR000069; Flavi_M.
DR   InterPro; IPR001157; Flavi_NS1.
DR   InterPro; IPR000752; Flavi_NS2A.
DR   InterPro; IPR000487; Flavi_NS2B.
DR   InterPro; IPR000404; Flavi_NS4A.
DR   InterPro; IPR001528; Flavi_NS4B.
DR   InterPro; IPR000208; Flavi_NS5.
DR   InterPro; IPR002535; Flavi_propep.
DR   InterPro; IPR001650; Helicase_C.
DR   InterPro; IPR007110; Ig-like.
DR   InterPro; IPR001850; Peptidase_S7.
DR   InterPro; IPR007095; RNA_pol_DS_PS.
DR   InterPro; IPR007094; RNA_pol_PSvir.
DR   InterPro; IPR002877; RrmJ_FtsJ.
DR   Pfam; PF01003; Flavi_capsid; 1.
DR   Pfam; PF02832; Flavi_glycop_C; 1.
DR   Pfam; PF00869; Flavi_glycoprot; 1.
DR   Pfam; PF00949; Flavi_helicase; 1.
DR   Pfam; PF01004; Flavi_M; 1.
DR   Pfam; PF00948; Flavi_NS1; 1.
DR   Pfam; PF01005; Flavi_NS2A; 1.
DR   Pfam; PF01002; Flavi_NS2B; 1.
DR   Pfam; PF01350; Flavi_NS4A; 1.
DR   Pfam; PF01349; Flavi_NS4B; 1.
DR   Pfam; PF00972; Flavi_NS5; 1.
DR   Pfam; PF01570; Flavi_propep; 1.
DR   Pfam; PF01728; FtsJ; 1.
DR   Pfam; PF00271; helicase_C; 1.
DR   ProDom; PD001556; Flavi_glycoprotE; 1.
DR   ProDom; PD001496; Flavi_NS1; 1.
DR   SMART; SM00487; DEXDc; 1.
DR   SMART; SM00490; HELICc; 1.
DR   PROSITE; PS00690; DEAH_ATP_HELICASE; FALSE_NEG.
KW   Polyprotein; Glycoprotein; Transferase; RNA-directed RNA polymerase;
KW   Core protein; Coat protein; Envelope protein; Hydrolase; Helicase;
KW   ATP-binding; Transmembrane; Nonstructural protein.
FT   CHAIN         1    114       CAPSID PROTEIN C (POTENTIAL).
FT   PROPEP      115    205
FT   CHAIN       206    280       ENVELOPE GLYCOPROTEIN M (POTENTIAL).
FT   CHAIN       281    774       MAJOR ENVELOPE PROTEIN E (POTENTIAL).
FT   CHAIN       775   1127       NONSTRUCTURAL PROTEIN NS1 (POTENTIAL).
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FT   CHAIN       1128   1344       NONSTRUCTURAL PROTEIN NS2A (POTENTIAL).
FT   CHAIN       1345   1474       NONSTRUCTURAL PROTEIN NS2B (POTENTIAL).
FT   CHAIN       1475   2093       PROTEASE/HELICASE (NS3) (POTENTIAL).
FT   CHAIN       2094   2243       NONSTRUCTURAL PROTEIN NS4A (POTENTIAL).
FT   CHAIN       2244   2492       NONSTRUCTURAL PROTEIN NS4B (POTENTIAL).
FT   CHAIN       2493   3396       RNA-DIRECTED RNA POLYMERASE (NS5)
FT                                 (POTENTIAL).
FT   NP_BIND     1668   1675       ATP (POTENTIAL).
FT   SITE        1759   1762       DEAH BOX.
FT   TRANSMEM     267    279       POTENTIAL.
FT   TRANSMEM     753    769       POTENTIAL.
FT   DISULFID     283    310       BY SIMILARITY.
FT   DISULFID     340    396       BY SIMILARITY.
FT   DISULFID     354    385       BY SIMILARITY.
FT   DISULFID     372    401       BY SIMILARITY.
FT   DISULFID     465    565       BY SIMILARITY.
FT   DISULFID     582    613       BY SIMILARITY.
FT   CARBOHYD     183    183       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD     347    347       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD     433    433       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   3396 AA;  379558 MW;  C53E75F3E424367D CRC64;

  Query Match             69.2%;  Score 36;  DB 1;  Length 3396;
  Best Local Similarity   75.0%;  Pred. No. 1.8e+02;
  Matches    6;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHS 8
              |:|| |||
Db       3383 ESDPKGHS 3390
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RESULT 12
YD22_MYCTU
ID   YD22_MYCTU     STANDARD;      PRT;    98 AA.
AC   Q10635;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Hypothetical protein Rv1322/MT1363.1/Mb1356.
GN   RV1322 OR MT1363.1 OR MTCY130.07 OR MB1356.
OS   Mycobacterium tuberculosis, and
OS   Mycobacterium bovis.
OC   Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC   Corynebacterineae; Mycobacteriaceae; Mycobacterium.
OX   NCBI_TaxID=1773, 1765;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   SPECIES=M.tuberculosis; STRAIN=H37Rv;
RX   MEDLINE=98295987; PubMed=9634230;
RA   Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris D.,
RA   Gordon S.V., Eiglmeier K., Gas S., Barry C.E. III, Tekaia F.,
RA   Badcock K., Basham D., Brown D., Chillingworth T., Connor R.,
RA   Davies R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holroyd S.,
RA   Hornsby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L.,
RA   Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J.,
RA   Rutter S., Seeger K., Skelton S., Squares S., Squares R.,
RA   Sulston J.E., Taylor K., Whitehead S., Barrell B.G.;
RT   "Deciphering the biology of Mycobacterium tuberculosis from the
RT   complete genome sequence.";
RL   Nature 393:537-544(1998).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   SPECIES=M.tuberculosis; STRAIN=CDC 1551 / Oshkosh;
RX   MEDLINE=22206494; PubMed=12218036;
RA   Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,
RA   Peterson J., DeBoy R., Dodson R., Gwinn M., Haft D., Hickey E.,
RA   Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M., Salzberg S.L.,
RA   Delcher A., Utterback T., Weidman J., Khouri H., Gill J., Mikula A.,
RA   Bishai W., Jacobs W.R. Jr., Venter J.C., Fraser C.M.;
RT   "Whole-genome comparison of Mycobacterium tuberculosis clinical and
RT   laboratory strains.";
RL   J. Bacteriol. 184:5479-5490(2002).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   SPECIES=M.bovis; STRAIN=AF2122/97;
RX   MEDLINE=22709107; PubMed=12788972;
RA   Garnier T., Eiglmeier K., Camus J.-C., Medina N., Mansoor H.,
RA   Pryor M., Duthoy S., Grondin S., Lacroix C., Monsempe C., Simon S.,
RA   Harris B., Atkin R., Doggett J., Mayes R., Keating L., Wheeler P.R.,
RA   Parkhill J., Barrell B.G., Cole S.T., Gordon S.V., Hewinson R.G.;
RT   "The complete genome sequence of Mycobacterium bovis.";
RL   Proc. Natl. Acad. Sci. U.S.A. 100:7877-7882(2003).
CC   ----------------------------------------------------------------------
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CC   ----------------------------------------------------------------------
DR   EMBL; Z73902; CAA98086.1; -.
DR   EMBL; AE007009; AAK45626.1; -.
DR   EMBL; BX248338; CAD94217.1; -.
DR   PIR; F70769; F70769.
DR   TIGR; MT1363.1; -.
DR   TubercuList; Rv1322; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   98 AA;  11334 MW;  72DF33A68405AE4B CRC64;

  Query Match             67.3%;  Score 35;  DB 1;  Length 98;
  Best Local Similarity   66.7%;  Pred. No. 6;
  Matches    6;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              || | || |
Db         24 EAGPDGHEY 32
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RESULT 13
YD97_THETN
ID   YD97_THETN     STANDARD;      PRT;   151 AA.
AC   Q8RA33;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Hypothetical UPF0090 protein TTE1397.
GN   TTE1397.
OS   Thermoanaerobacter tengcongensis.
OC   Bacteria; Firmicutes; Clostridia; Thermoanaerobacteriales;
OC   Thermoanaerobacteriaceae; Thermoanaerobacter.
OX   NCBI_TaxID=119072;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MB4 / JCM 11007;
RX   MEDLINE=21992816; PubMed=11997336;
RA   Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Dong W., Yang J.,
RA   Chen Y., Xue Y., Xu Y., Lai X., Huang L., Dong X., Ma Y., Ling L.,
RA   Tan H., Chen R., Wang J., Yu J., Yang H.;
RT   "A complete sequence of T. tengcongensis genome.";
RL   Genome Res. 12:689-700(2002).
CC   -!- SIMILARITY: Belongs to the UPF0090 family.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; AE013099; AAM24619.1; -.
DR   HAMAP; MF_01077; -; 1.
DR   InterPro; IPR003728; DUF150.
DR   Pfam; PF02576; DUF150; 1.
KW   Hypothetical protein; Complete proteome.
```

```
SQ   SEQUENCE   151 AA;  17795 MW;  8B10BAF220E6DDD9 CRC64;

  Query Match          67.3%;  Score 35;  DB 1;  Length 151;
  Best Local Similarity   66.7%;  Pred. No. 9.6;
  Matches    6;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | ||  |||
Db         65 EVDPIDHSY 73


RESULT 14
MGB4_HUMAN
ID   MGB4_HUMAN     STANDARD;      PRT;   346 AA.
AC   O15481;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Melanoma-associated antigen B4 (MAGE-B4 antigen).
GN   MAGEB4.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=98110575; PubMed=9441743;
RA   Lurquin C., de Smet C., Brasseur F., Muscatelli F., Martelange V.,
RA   de Plaen E., Brasseur R., Monaco A.P., Boon T.;
RT   "Two members of the human MAGEB gene family located in Xp21.3 are
RT   expressed in tumors of various histological origins.";
RL   Genomics 46:397-408(1997).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Muzny D., Arenson A.D., Adams C., Brundage E., Bunac C., Carvelli K.,
RA   Chacko J., Chen J., Di W., Ding Y., Dugan S., Durbin J., Forcum J.,
RA   Ganesh R., Garcia C., Goodman M., Gorrell J.H., Haywood M.,
RA   Hernandez J., Jackson L., Jin S., Kampal R., Karpathy S., Kovar C.,
RA   Leal B., Li Y., Lichtarge O., Liu W., Logan O., Lu J., Ly T.,
RA   Martinez C., Oswal G., Perez L., Rashid N.D., Rowland K., Savage L.,
RA   Scherer S.E., Shen H., Simon M., Stovall K., Timms K.M., Todd J.,
RA   Vo Q., Williamson A., Worley K.C., Yu W., Chinault C., Nelson D.,
RA   Gibbs R.A.;
RL   Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- TISSUE SPECIFICITY: Expressed in testis.
CC   -!- SIMILARITY: Contains 1 MAGE domain.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U93163; AAC23619.1; -.
DR   EMBL; AC005185; AAD10637.1; -.
DR   Genew; HGNC:6811; MAGEB4.
DR   MIM; 300153; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
KW   Antigen; Multigene family.
FT   DOMAIN      109    307       MAGE.
SQ   SEQUENCE   346 AA;  38923 MW;  804F260BD50F036A CRC64;

  Query Match          67.3%;  Score 35;  DB 1;  Length 346;
  Best Local Similarity   66.7%;  Pred. No. 23;
  Matches    6;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | :|| |||
Db        168 EVNPTTHSY 176


RESULT 15
PKN2_COREF
ID   PKN2_COREF     STANDARD;      PRT;   520 AA.
AC   Q8FUI4;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Serine/threonine protein kinases drp72 (EC 2.7.1.37).
GN   CE0034.
OS   Corynebacterium efficiens.
OC   Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC   Corynebacterineae; Corynebacteriaceae; Corynebacterium.
OX   NCBI_TaxID=152794;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=YS-314 / AJ 12310 / DSM 44549 / JCM 11189;
RX   MEDLINE=22723752; PubMed=12840036;
RA   Nishio Y., Nakamura Y., Kawarabayasi Y., Usuda Y., Kimura E.,
RA   Sugimoto S., Matsui K., Yamagishi A., Kikuchi H., Ikeo K.,
RA   Gojobori T.;
RT   "Comparative complete genome sequence analysis of the amino acid
RT   replacements responsible for the thermostability of Corynebacterium
RT   efficiens.";
RL   Genome Res. 13:1572-1579(2003).
CC   -!- CATALYTIC ACTIVITY: ATP + a protein = ADP + a phosphoprotein.
CC   -!- SIMILARITY: Belongs to the Ser/Thr family of protein kinases.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AP005214; BAC16844.1; -.
DR   InterPro; IPR000719; Prot_kinase.
DR   InterPro; IPR008271; Ser_thr_pkin_AS.
DR   InterPro; IPR002290; Ser_thr_pkinase.
DR   InterPro; IPR001245; Tyr_pkinase.
DR   Pfam; PF00069; pkinase; 1.
DR   ProDom; PD000001; Prot_kinase; 1.
DR   SMART; SM00220; S_TKc; 1.
DR   SMART; SM00219; TyrKc; 1.
DR   PROSITE; PS00107; PROTEIN_KINASE_ATP; 1.
DR   PROSITE; PS50011; PROTEIN_KINASE_DOM; 1.
DR   PROSITE; PS00108; PROTEIN_KINASE_ST; 1.
KW   Transferase; Serine/threonine-protein kinase; ATP-binding;
KW   Complete proteome.
FT   DOMAIN       20    281       PROTEIN KINASE.
FT   DOMAIN      372    492       PRO/THR-RICH.
FT   NP_BIND      26     34       ATP (BY SIMILARITY).
FT   BINDING      49     49       ATP (BY SIMILARITY).
FT   ACT_SITE    148    148       BY SIMILARITY.
SQ   SEQUENCE   520 AA;  54630 MW;  84CC987FE9F902F9 CRC64;

  Query Match          67.3%;  Score 35;  DB 1;  Length 520;
  Best Local Similarity   62.5%;  Pred. No. 36;
  Matches    5;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 ADPTGHSY 9
              ||| ||:: 
Db         90 ADPAGHTF 97


Search completed: April 5, 2004, 15:03:12
Job time : 9 secs
```

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: April 5, 2004, 14:57:16 ; Search time 33.3333 Seconds
(without alignments)
85.190 Million cell updates/sec

Title: US-09-766-889C-8
Perfect score: 52
Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_25:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	43	82.7	315	4	Q7Z5K4	Q7z5k4 homo sapien
2	43	82.7	318	4	Q9BUN9	Q9bun9 homo sapien
3	40	76.9	259	16	Q81WF3	Q81wf3 bacillus an
4	40	76.9	259	16	Q819S4	Q819s4 bacillus ce
5	38	73.1	129	17	Q9YDL2	Q9ydl2 aeropyrum p
6	38	73.1	130	16	Q825J6	Q825j6 streptomyce
7	38	73.1	305	16	Q9HZX1	Q9hzx1 pseudomonas
8	37	71.2	345	16	Q89L61	Q89l61 bradyrhizob
9	37	71.2	604	11	Q8BQ25	Q8bq25 mus musculu
10	37	71.2	748	5	Q9NJI4	Q9nji4 aplysia cal
11	37	71.2	975	16	Q825Y1	Q825y1 streptomyce
12	37	71.2	1032	11	Q61989	Q61989 mus musculu
13	37	71.2	1198	16	Q8A192	Q8a192 bacteroides
14	36	69.2	208	16	Q82L14	Q82l14 streptomyce
15	36	69.2	263	16	Q88VG7	Q88vg7 lactobacill
16	36	69.2	323	10	Q8L4Z2	Q8l4z2 oryza sativ
17	36	69.2	518	10	Q9FTE2	Q9fte2 oryza sativ
18	36	69.2	545	17	Q978S2	Q978s2 thermoplasm
19	36	69.2	574	16	Q881Y2	Q881y2 pseudomonas
20	36	69.2	941	5	Q9NEC3	Q9nec3 leishmania
21	36	69.2	1068	10	Q9AXF7	Q9axf7 chlamydomon
22	36	69.2	1156	4	Q9NZP6	Q9nzp6 homo sapien
23	36	69.2	1375	3	Q9UTL9	Q9utl9 schizosacch
24	36	69.2	2457	12	O41965	O41965 murid herpe
25	36	69.2	2941	16	Q7UEZ5	Q7uez5 rhodopirell
26	35	67.3	84	2	Q8GF41	Q8gf41 zymomonas m
27	35	67.3	131	16	O85701	O85701 streptomyce
28	35	67.3	246	16	Q82R69	Q82r69 streptomyce
29	35	67.3	274	4	Q7Z3P5	Q7z3p5 homo sapien
30	35	67.3	275	16	Q8EFA9	Q8efa9 shewanella
31	35	67.3	311	6	Q9BG82	Q9bg82 felis silve
32	35	67.3	320	11	O89006	O89006 mus musculu
33	35	67.3	320	11	Q9R2A2	Q9r2a2 mus musculu
34	35	67.3	325	11	O89010	O89010 mus musculu
35	35	67.3	330	11	Q8K3I5	Q8k3i5 mus musculu
36	35	67.3	330	11	Q9D2H4	Q9d2h4 mus musculu
37	35	67.3	330	11	Q8JZK8	Q8jzk8 mus musculu
38	35	67.3	330	11	Q60763	Q60763 mus musculu
39	35	67.3	330	11	Q60761	Q60761 mus musculu
40	35	67.3	330	11	Q99PF1	Q99pf1 mus musculu
41	35	67.3	346	4	Q8IZ00	Q8iz00 homo sapien
42	35	67.3	355	16	Q7UMG9	Q7umg9 rhodopirell
43	35	67.3	385	16	Q9A817	Q9a817 caulobacter
44	35	67.3	404	5	Q8IT59	Q8it59 drosophila
45	35	67.3	430	16	Q8UBB0	Q8ubb0 agrobacteri

ALIGNMENTS

RESULT 1
Q7Z5K4
ID Q7Z5K4 PRELIMINARY; PRT; 315 AA.
AC Q7Z5K4;
DT 01-OCT-2003 (TrEMBLrel. 25, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Melanoma antigen family A 9 (Fragment).
GN MAGEA9.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Zhu J., Feng Z., Guan X.;
RT "MAGE-9 antigen (MAGE9) gene expressed in human hepatocellular
RT carcinoma patients.";
RL Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AY310325; AAP82171.1; -.
FT NON_TER 315 315
SQ SEQUENCE 315 AA; 35116 MW; C9488470D409B96F CRC64;

Query Match 82.7%; Score 43; DB 4; Length 315;
Best Local Similarity 77.8%; Pred. No. 5.4;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              | || |||| |
Db        167 EVDPAGHSY 175
```

RESULT 2
Q9BUN9
ID Q9BUN9 PRELIMINARY; PRT; 318 AA.
AC Q9BUN9;
DT 01-JUN-2001 (TrEMBLrel. 17, Created)
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)

```
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Skin antigen, family A, 8 (Melanoma antigen, family A, 8).
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Skin;
RA   Strausberg R.;
RL   Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Kalnine N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,
RA   Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,
RA   Phelan M., Farmer A.;
RT   "Cloning of human full-length CDSs in BD Creator(TM) System Donor
RT   vector.";
RL   Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; BC002455; AAH02455.1; -.
DR   EMBL; BC012744; AAH12744.1; -.
DR   EMBL; BT007340; AAP36004.1; -.
DR   InterPro; IPR002190; MAGE.
DR   Pfam; PF01454; MAGE; 1.
DR   PROSITE; PS50838; MAGE; 1.
SQ   SEQUENCE   318 AA;  35214 MW;  EA02C1FB42F6C080 CRC64;

  Query Match             82.7%;  Score 43;  DB 4;  Length 318;
  Best Local Similarity   77.8%;  Pred. No. 5.5;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              | || ||||
Db        171 EVDPAGHSY 179


RESULT 3
Q81WF3
ID   Q81WF3      PRELIMINARY;      PRT;   259 AA.
AC   Q81WF3;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Dihydroorotate dehydrogenase, electron transfer subunit.
GN   PYRK OR BA4024.
OS   Bacillus anthracis (strain Ames).
OC   Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
OX   NCBI_TaxID=198094;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22608414; PubMed=12721629;
RA   Read T.D., Peterson S.N., Tourasse N., Baillie L.W., Paulsen I.T.,
RA   Nelson K.E., Tettelin H., Fouts D.E., Eisen J.A., Gill S.R.,
RA   Holtzapple E.K., Okstad O.A., Helgason E., Rilstone J., Wu M.,
RA   Kolonay J.F., Beanan M.J., Dodson R.J., Brinkac L.M., Gwinn M.,
RA   DeBoy R.T., Madpu R., Daugherty S.C., Durkin A.S., Haft D.H.,
RA   Nelson W.C., Peterson J.D., Pop M., Khouri H.M., Radune D.,
RA   Benton J.L., Mahamoud Y., Jiang L., Hance I.R., Weidman J.F.,
RA   Berry K.J., Plaut R.D., Wolf A.M., Watkins K.L., Nierman W.C.,
RA   Hazen A., Cline R., Redmond C., Thwaite J.E., White O., Salzberg S.L.,
RA   Thomason B., Friedlander A.M., Koehler T.M., Hanna P.C., Kolsto A.-B.,
RA   Fraser C.M.;
RT   "The genome sequence of Bacillus anthracis Ames and comparison to
RT   closely related bacteria.";
RL   Nature 423:81-86(2003).
DR   EMBL; AE017036; AAP27751.1; -.
DR   TIGR; BA4024; -.
DR   GO; GO:0016491; F:oxidoreductase activity; IEA.
DR   GO; GO:0006118; P:electron transport; IEA.
DR   InterPro; IPR001834; Cyt_B5_reductase.
DR   InterPro; IPR008333; FAD_binding_6.
DR   InterPro; IPR000951; Phdlox_reductase.
DR   Pfam; PF00970; FAD_binding_6; 1.
DR   PRINTS; PR00406; CYTB5RDTASE.
DR   PRINTS; PR00409; PHDIOXRDTASE.
KW   Complete proteome.
SQ   SEQUENCE   259 AA;  28439 MW;  DC2768827E220805 CRC64;

  Query Match             76.9%;  Score 40;  DB 16;  Length 259;
  Best Local Similarity   66.7%;  Pred. No. 16;
  Matches    6;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              : ||:||||
Db        234 QEDPSGHSY 242


RESULT 4
Q819S4
ID   Q819S4      PRELIMINARY;      PRT;   259 AA.
AC   Q819S4;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Dihydroorotate dehydrogenase electron transfer subunit (EC
DE   1.3.3.1).
GN   BC3885.
OS   Bacillus cereus (strain ATCC 14579 / DSM 31).
OC   Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
OX   NCBI_TaxID=226900;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22608415; PubMed=12721630;
RA   Ivanova N., Sorokin A., Anderson I., Galleron N., Candelon B.,
RA   Kapatral V., Bhattacharyya A., Reznik G., Mikhailova N., Lapidus A.,
RA   Chu L., Mazur M., Goltsman E., Larsen N., D'Souza M., Walunas T.,
RA   Grechkin Y., Pusch G., Haselkorn R., Fonstein M., Ehrlich S.D.,
RA   Overbeek R., Kyrpides N.;
RT   "Genome sequence of Bacillus cereus and comparative analysis with
RT   Bacillus anthracis.";
RL   Nature 423:87-91(2003).
DR   EMBL; AE017010; AAP10806.1; -.
DR   GO; GO:0016491; F:oxidoreductase activity; IEA.
DR   GO; GO:0006118; P:electron transport; IEA.
DR   InterPro; IPR001834; Cyt_B5_reductase.
DR   InterPro; IPR008333; FAD_binding_6.
DR   InterPro; IPR000951; Phdlox_reductase.
DR   Pfam; PF00970; FAD_binding_6; 1.
DR   PRINTS; PR00406; CYTB5RDTASE.
DR   PRINTS; PR00409; PHDIOXRDTASE.
KW   Oxidoreductase; Complete proteome.
SQ   SEQUENCE   259 AA;  28416 MW;  D8F893A27E25919B CRC64;

  Query Match             76.9%;  Score 40;  DB 16;  Length 259;
  Best Local Similarity   66.7%;  Pred. No. 16;
  Matches    6;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              : ||:||||
Db        234 QEDPSGHSY 242


RESULT 5
Q9YDL2
ID   Q9YDL2      PRELIMINARY;      PRT;   129 AA.
AC   Q9YDL2;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Hypothetical protein APE0901.
GN   APE0901.
OS   Aeropyrum pernix.
OC   Archaea; Crenarchaeota; Thermoprotei; Desulfurococcales;
OC   Desulfurococcaceae; Aeropyrum.
OX   NCBI_TaxID=56636;
RN   [1]
```

```
RP   SEQUENCE FROM N.A.
RC   STRAIN=K1;
RX   MEDLINE=99310339; PubMed=10382966;
RA   Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haikawa Y.,
RA   Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., Kosugi H.,
RA   Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H.,
RA   Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y.,
RA   Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K.,
RA   Nakamura Y., Nomura N., Sako Y., Kikuchi H.;
RT   "Complete genome sequence of an aerobic hyper-thermophilic
RT   crenarchaeon, Aeropyrum pernix K1.";
RL   DNA Res. 6:83-101(1999).
DR   EMBL; AP000060; BAA79885.1; -.
DR   PIR; E72685; E72685.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   129 AA;  14303 MW;  A0FF72C1EAB0D134 CRC64;

  Query Match             73.1%;  Score 38;  DB 17;  Length 129;
  Best Local Similarity   85.7%;  Pred. No. 18;
  Matches    6;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          3 DPTGHSY 9
              || ||||
Db        115 DPAGHSY 121


RESULT 6
Q825J6
ID   Q825J6      PRELIMINARY;      PRT;   130 AA.
AC   Q825J6;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Hypothetical protein.
GN   SAV7461.
OS   Streptomyces avermitilis.
OC   Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC   Streptomycineae; Streptomycetaceae; Streptomyces.
OX   NCBI_TaxID=33903;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX   MEDLINE=21477403; PubMed=11572948;
RA   Omura S., Ikeda H., Ishikawa J., Hanamoto A., Takahashi C.,
RA   Shinose M., Takahashi Y., Horikawa H., Nakazawa H., Osonoe T.,
RA   Kikuchi H., Shiba T., Sakaki Y., Hattori M.;
RT   "Genome sequence of an industrial microorganism Streptomyces
RT   avermitilis: deducing the ability of producing secondary
RT   metabolites.";
RL   Proc. Natl. Acad. Sci. U.S.A. 98:12215-12220(2001).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX   MEDLINE=22608306; PubMed=12692562;
RA   Ikeda H., Ishikawa J., Hanamoto A., Shinose M., Kikuchi H., Shiba T.,
RA   Sakaki Y., Hattori M., Omura S.;
RT   "Complete genome sequence and comparative analysis of the industrial
RT   microorganism Streptomyces avermitilis.";
RL   Nat. Biotechnol. 21:526-531(2003).
DR   EMBL; AP005050; BAC75172.1; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   130 AA;  14204 MW;  0AE076FF77FEA58F CRC64;

  Query Match             73.1%;  Score 38;  DB 16;  Length 130;
  Best Local Similarity   75.0%;  Pred. No. 18;
  Matches    6;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 ADPTGHSY 9
              ||| |||:
Db        110 ADPAGHSF 117


RESULT 7
Q9HZX1
ID   Q9HZX1      PRELIMINARY;      PRT;   305 AA.
AC   Q9HZX1;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Hypothetical protein PA2875.
GN   PA2875.
OS   Pseudomonas aeruginosa.
OC   Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
OC   Pseudomonadaceae; Pseudomonas.
OX   NCBI_TaxID=287;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 15692 / PAO1;
RX   MEDLINE=20437337; PubMed=10984043;
RA   Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,
RA   Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.,
RA   Garber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y.,
RA   Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,
RA   Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,
RA   Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.;
RT   "Complete genome sequence of Pseudomonas aeruginosa PAO1, an
RT   opportunistic pathogen.";
RL   Nature 406:959-964(2000).
DR   EMBL; AE004713; AAG06263.1; -.
DR   PIR; H83287; H83287.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   305 AA;  32851 MW;  79351EBFA2704A61 CRC64;

  Query Match             73.1%;  Score 38;  DB 16;  Length 305;
  Best Local Similarity   85.7%;  Pred. No. 47;
  Matches    6;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGH 7
              :||||||
Db        283 QADPTGH 289


RESULT 8
Q89L61
ID   Q89L61      PRELIMINARY;      PRT;   345 AA.
AC   Q89L61;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Aspartate-semialdehyde dehydrogenase.
GN   ASD OR BLR4687.
OS   Bradyrhizobium japonicum.
OC   Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
OC   Bradyrhizobiaceae; Bradyrhizobium.
OX   NCBI_TaxID=375;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=USDA 110;
RX   MEDLINE=22484998; PubMed=12597275;
RA   Kaneko T., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,
RA   Sasamoto S., Watanabe A., Idesawa K., Iriguchi M., Kawashima K.,
RA   Kohara M., Matsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamada M.,
RA   Tabata S.;
RT   "Complete genomic sequence of nitrogen-fixing symbiotic bacterium
RT   Bradyrhizobium japonicum USDA110.";
RL   DNA Res. 9:189-197(2002).
DR   EMBL; AP005952; BAC49952.1; -.
DR   GO; GO:0006520; P:amino acid metabolism; IEA.
DR   InterPro; IPR000534; Semialdh_dh.
DR   Pfam; PF01118; Semialdhyde_dh; 1.
DR   Pfam; PF02774; Semialdhyde_dhC; 1.
KW   Complete proteome.
SQ   SEQUENCE   345 AA;  37202 MW;  29B5FB6669BBD814 CRC64;

  Query Match             71.2%;  Score 37;  DB 16;  Length 345;
  Best Local Similarity   85.7%;  Pred. No. 83;
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```
  Matches    6;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 ADPTGHS 8
              :||||||
Db        308 SDPTGHS 314


RESULT 9
Q8BQ25
ID   Q8BQ25      PRELIMINARY;      PRT;   604 AA.
AC   Q8BQ25;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Integrin alpha 4 (Fragment).
GN   ITGA4.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=Dorsal root ganglion;
RX   MEDLINE=22354683; PubMed=12466851;
RA   The FANTOM Consortium,
RA   the RIKEN Genome Exploration Research Group Phase I & II Team;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
DR   EMBL; AK051676; BAC34715.1; -.
DR   MGD; MGI:96603; Itga4.
DR   GO; GO:0016477; P:cell migration; IMP.
DR   GO; GO:0007507; P:heart development; IMP.
DR   InterPro; IPR000413; Integrin_alpha.
DR   Pfam; PF01839; FG-GAP; 3.
DR   PRINTS; PR01185; INTEGRINA.
FT   NON_TER     604     604
SQ   SEQUENCE   604 AA;  66598 MW;  5CB11D3C1A38C999 CRC64;

  Query Match             71.2%;  Score 37;  DB 11;  Length 604;
  Best Local Similarity   100.0%;  Pred. No. 1.5e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          4 PTGHSY 9
              ||||||
Db         29 PTGHSY 34


RESULT 10
Q9NJI4
ID   Q9NJI4      PRELIMINARY;      PRT;   748 AA.
AC   Q9NJI4;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Peptidylglycine alpha-amidating monooxygenase (Fragment).
OS   Aplysia californica (California sea hare).
OC   Eukaryota; Metazoa; Mollusca; Gastropoda; Orthogastropoda;
OC   Apogastropoda; Heterobranchia; Euthyneura; Opisthobranchia; Anaspidea;
OC   Aplysioidea; Aplysiidae; Aplysia.
OX   NCBI_TaxID=6500;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20499199; PubMed=11042355;
RA   Fan X., Spijker S., Akalal D.B.G., Nagle G.T.;
RT   "Neuropeptide amidation: cloning of a bifunctional alpha-amidating
RT   enzyme from Aplysia.";
RL   Brain Res. Mol. Brain Res. 82:25-34(2000).
DR   EMBL; AF140271; AAF67216.1; -.
DR   HSSP; P14925; 1PHM.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005507; F:copper ion binding; IEA.
DR   GO; GO:0004504; F:peptidylglycine monooxygenase activity; IEA.
DR   GO; GO:0006518; P:peptide metabolism; IEA.
DR   InterPro; IPR000323; Cu2_monooxygnse.
DR   InterPro; IPR001258; NHL.
DR   InterPro; IPR000720; Pamonoxygenase.
DR   InterPro; IPR008977; PHM_PNGase_F.
DR   Pfam; PF01082; Cu2_monooxygen; 1.
DR   Pfam; PF03712; Cu2_monoox_C; 1.
DR   Pfam; PF01436; NHL; 6.
DR   PRINTS; PR00790; PAMONOXGNASE.
KW   Monooxygenase.
FT   NON_TER     748     748
SQ   SEQUENCE   748 AA;  82446 MW;  D506B4C1E6068AAE CRC64;

  Query Match             71.2%;  Score 37;  DB 5;  Length 748;
  Best Local Similarity   87.5%;  Pred. No. 1.9e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHS 8
              ||||| ||
Db         41 EADPTTHS 48


RESULT 11
Q825Y1
ID   Q825Y1      PRELIMINARY;      PRT;   975 AA.
AC   Q825Y1;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Hypothetical protein.
GN   SAV7312.
OS   Streptomyces avermitilis.
OC   Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC   Streptomycineae; Streptomycetaceae; Streptomyces.
OX   NCBI_TaxID=33903;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX   MEDLINE=21477403; PubMed=11572948;
RA   Omura S., Ikeda H., Ishikawa J., Hanamoto A., Takahashi C.,
RA   Shinose M., Takahashi Y., Horikawa H., Nakazawa H., Osonoe T.,
RA   Kikuchi H., Shiba T., Sakaki Y., Hattori M.;
RT   "Genome sequence of an industrial microorganism Streptomyces
RT   avermitilis: deducing the ability of producing secondary
RT   metabolites.";
RL   Proc. Natl. Acad. Sci. U.S.A. 98:12215-12220(2001).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX   MEDLINE=22608306; PubMed=12692562;
RA   Ikeda H., Ishikawa J., Hanamoto A., Shinose M., Kikuchi H., Shiba T.,
RA   Sakaki Y., Hattori M., Omura S.;
RT   "Complete genome sequence and comparative analysis of the industrial
RT   microorganism Streptomyces avermitilis.";
RL   Nat. Biotechnol. 21:526-531(2003).
DR   EMBL; AP005050; BAC75023.1; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   975 AA;  106606 MW;  131D96F87BF9D27C CRC64;

  Query Match             71.2%;  Score 37;  DB 16;  Length 975;
  Best Local Similarity   75.0%;  Pred. No. 2.6e+02;
  Matches    6;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHS 8
              |||| ||:
Db        137 EADPAGHA 144


RESULT 12
Q61989
ID   Q61989      PRELIMINARY;      PRT;  1032 AA.
AC   Q61989; Q61740;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
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DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Integrin alpha-4 subunit.
GN   ITGA4 OR VLA-4.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC   STRAIN=DBA, and NIH/SWISS; TISSUE=Leukemia, and Fibroblast;
RX   MEDLINE=95290094; PubMed=7772255;
RA   de Meirsman C., Schollen E., Jaspers M., Ongena K., Matthijs G.,
RA   Marynen P., Cassiman J.J.;
RT   "Cloning and characterization of the promoter region of the murine
RT   alpha-4 integrin subunit.";
RL   DNA Cell Biol. 13:743-754(1994).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=B6/CBA, and NIH/SWISS; TISSUE=Spleen, and Fibroblast;
RX   MEDLINE=96326295; PubMed=8756341;
RA   de Meirsman C., Jaspers M., Schollen E., Cassiman J.J.;
RT   "The genomic structure of the murine alpha 4 integrin gene.";
RL   DNA Cell Biol. 15:595-603(1996).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6; TISSUE=Liver;
RA   Hasegawa M., Foote S.;
RL   Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   SEQUENCE OF 134-307 FROM N.A.
RC   TISSUE=Melanoma;
RA   Rout U.K., Armant D.R.;
RL   Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; L20788; AAA97501.1; -.
DR   EMBL; U34800; AAB09630.1; -.
DR   EMBL; U34627; AAB09630.1; JOINED.
DR   EMBL; U34628; AAB09630.1; JOINED.
DR   EMBL; U34629; AAB09630.1; JOINED.
DR   EMBL; U34630; AAB09630.1; JOINED.
DR   EMBL; U34631; AAB09630.1; JOINED.
DR   EMBL; U34632; AAB09630.1; JOINED.
DR   EMBL; U34633; AAB09630.1; JOINED.
DR   EMBL; U34634; AAB09630.1; JOINED.
DR   EMBL; U34635; AAB09630.1; JOINED.
DR   EMBL; U34763; AAB09630.1; JOINED.
DR   EMBL; U34764; AAB09630.1; JOINED.
DR   EMBL; U34765; AAB09630.1; JOINED.
DR   EMBL; U34766; AAB09630.1; JOINED.
DR   EMBL; U34767; AAB09630.1; JOINED.
DR   EMBL; U34768; AAB09630.1; JOINED.
DR   EMBL; U34769; AAB09630.1; JOINED.
DR   EMBL; U34770; AAB09630.1; JOINED.
DR   EMBL; U34797; AAB09630.1; JOINED.
DR   EMBL; U34798; AAB09630.1; JOINED.
DR   EMBL; U34799; AAB09630.1; JOINED.
DR   EMBL; AF109136; AAC95388.1; -.
DR   EMBL; U97151; AAC05709.1; -.
DR   MGD; MGI:96603; Itga4.
DR   GO; GO:0016477; P:cell migration; IMP.
DR   GO; GO:0007507; P:heart development; IMP.
DR   InterPro; IPR000413; Integrin_alpha.
DR   Pfam; PF01839; FG-GAP; 3.
DR   Pfam; PF00357; integrin_A; 1.
DR   PRINTS; PR01185; INTEGRINA.
DR   SMART; SM00191; Int_alpha; 5.
DR   PROSITE; PS00242; INTEGRIN_ALPHA; 1.
KW   Integrin.
SQ   SEQUENCE   1032 AA;  115085 MW;  6E99ED8B589EF060 CRC64;

  Query Match             71.2%;  Score 37;  DB 11;  Length 1032;
  Best Local Similarity   100.0%;  Pred. No. 2.7e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          4 PTGHSY 9
              ||||||
Db         29 PTGHSY 34


RESULT 13
Q8A192
ID   Q8A192      PRELIMINARY;      PRT;  1198 AA.
AC   Q8A192;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Alpha-mannosidase.
GN   BT3774.
OS   Bacteroides thetaiotaomicron.
OC   Bacteria; Bacteroidetes; Bacteroides (class); Bacteroidales;
OC   Bacteroidaceae; Bacteroides.
OX   NCBI_TaxID=818;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=VPI-5482 / ATCC 29148;
RX   MEDLINE=22550858; PubMed=12663928;
RA   Xu J., Bjursell M.K., Himrod J., Deng S., Carmichael L.K.,
RA   Chiang H.C., Hooper L.V., Gordon J.I.;
RT   "A genomic view of the human-Bacteroides thetaiotaomicron symbiosis.";
RL   Science 299:2074-2076(2003).
DR   EMBL; AE016942; AAO78879.1; -.
DR   GO; GO:0004559; F:alpha-mannosidase activity; IEA.
DR   GO; GO:0005975; P:carbohydrate metabolism; IEA.
DR   GO; GO:0007155; P:cell adhesion; IEA.
DR   InterPro; IPR000421; FA58_C.
DR   InterPro; IPR008979; Gal_bind_like.
DR   InterPro; IPR000602; Glyco_hydro_38.
DR   Pfam; PF01074; Glyco_hydro_38; 1.
DR   PROSITE; PS50022; FA58C_3; 1.
KW   Complete proteome.
SQ   SEQUENCE   1198 AA;  133949 MW;  6C61CA9C06D82FAB CRC64;

  Query Match             71.2%;  Score 37;  DB 16;  Length 1198;
  Best Local Similarity   100.0%;  Pred. No. 3.2e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          4 PTGHSY 9
              ||||||
Db        923 PTGHSY 928


RESULT 14
Q82L14
ID   Q82L14      PRELIMINARY;      PRT;   208 AA.
AC   Q82L14;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Hypothetical protein.
GN   SAV2198.
OS   Streptomyces avermitilis.
OC   Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
OC   Streptomycineae; Streptomycetaceae; Streptomyces.
OX   NCBI_TaxID=33903;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX   MEDLINE=21477403; PubMed=11572948;
RA   Omura S., Ikeda H., Ishikawa J., Hanamoto A., Takahashi C.,
RA   Shinose M., Takahashi Y., Horikawa H., Nakazawa H., Osonoe T.,
RA   Kikuchi H., Shiba T., Sakaki Y., Hattori M.;
RT   "Genome sequence of an industrial microorganism Streptomyces
RT   avermitilis: deducing the ability of producing secondary
RT   metabolites.";
RL   Proc. Natl. Acad. Sci. U.S.A. 98:12215-12220(2001).
RN   [2]
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RP   SEQUENCE FROM N.A.
RC   STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
RX   MEDLINE=22608306; PubMed=12692562;
RA   Ikeda H., Ishikawa J., Hanamoto A., Shinose M., Kikuchi H., Shiba T.,
RA   Sakaki Y., Hattori M., Omura S.;
RT   "Complete genome sequence and comparative analysis of the industrial
RT   microorganism Streptomyces avermitilis.";
RL   Nat. Biotechnol. 21:526-531(2003).
DR   EMBL; AP005029; BAC69909.1; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   208 AA;  22740 MW;  2F81808818B2A2BB CRC64;

  Query Match             69.2%;  Score 36;  DB 16;  Length 208;
  Best Local Similarity   55.6%;  Pred. No. 74;
  Matches    5;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              :|||  ||:: 
Db        189 DADPRGHAF 197


RESULT 15
Q88VG7
ID   Q88VG7      PRELIMINARY;      PRT;   263 AA.
AC   Q88VG7;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Short-chain dehydrogenase/oxidoreductase.
GN   LP_2089.
OS   Lactobacillus plantarum.
OC   Bacteria; Firmicutes; Lactobacillales; Lactobacillaceae;
OC   Lactobacillus.
OX   NCBI_TaxID=1590;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NCIMB 8826 / WCFS1;
RX   MEDLINE=22480296; PubMed=12566566;
RA   Kleerebezem M., Boekhorst J., van Kranenburg R., Molenaar D.,
RA   Kuipers O.P., Leer R., Tarchini R., Peters S.A., Sandbrink H.M.,
RA   Fiers M.W.E.J., Stiekema W., Klein Lankhorst R.M., Bron P.A.,
RA   Hoffer S.M., Nierop Groot M.N., Kerkhoven R., De Vries M., Ursing B.,
RA   De Vos W.M., Siezen R.J.;
RT   "Complete genome sequence of Lactobacillus plantarum WCFS1.";
RL   Proc. Natl. Acad. Sci. U.S.A. 100:1990-1995(2003).
DR   EMBL; AL935258; CAD64455.1; -.
DR   GO; GO:0016491; F:oxidoreductase activity; IEA.
DR   GO; GO:0008152; P:metabolism; IEA.
DR   InterPro; IPR002198; ADH_short.
DR   Pfam; PF00106; adh_short; 1.
DR   PRINTS; PR00080; SDRFAMILY.
DR   PROSITE; PS00061; ADH_SHORT; 1.
KW   Complete proteome.
SQ   SEQUENCE   263 AA;  28240 MW;  EAB0931DFA4E9AF9 CRC64;

  Query Match             69.2%;  Score 36;  DB 16;  Length 263;
  Best Local Similarity   100.0%;  Pred. No. 95;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 ADPTGH 7
              ||||||
Db        197 ADPTGH 202


Search completed: April  5, 2004, 15:05:06
Job time : 35.3333 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: April 6, 2004, 07:06:12 ; Search time 54 Seconds
(without alignments)
47.091 Million cell updates/sec

Title: US-09-766-889C-8
Perfect score: 52
Sequence: 1 EADPTGHSY 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 102

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 100%
Maximum Match 100%
Listing first 250 summaries

Database : A_Geneseq_29Jan04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	52	100.0	9	2	AAR29769	Aar29769 Antigen E
2	52	100.0	9	2	AAR63675	Aar63675 Synthetic
3	52	100.0	9	2	AAR50281	Aar50281 MAGE-1 no
4	52	100.0	9	2	AAY38303	Aay38303 MAGE-deri
5	52	100.0	9	2	AAR47330	Aar47330 HLA-A1 MA
6	52	100.0	9	2	AAR49224	Aar49224 HLA-A1 MA
7	52	100.0	9	2	AAR78824	Aar78824 MAGE-1 cy
8	52	100.0	9	2	AAR82988	Aar82988 P815 anti
9	52	100.0	9	2	AAR83932	Aar83932 MHC class
10	52	100.0	9	2	AAR65112	Aar65112 MAGE 1 im
11	52	100.0	9	2	AAR65135	Aar65135 MAGE 1 im
12	52	100.0	9	2	AAR75954	Aar75954 Melanoma
13	52	100.0	9	2	AAR99343	Aar99343 MAGE-1 no
14	52	100.0	9	2	AAR90692	Aar90692 Human leu
15	52	100.0	9	2	AAW00897	Aaw00897 Human mel
16	52	100.0	9	2	AAW54622	Aaw54622 Peptide f
17	52	100.0	9	2	AAW78838	Aaw78838 MAGE-1 pr
18	52	100.0	9	2	AAW77125	Aaw77125 gp75/TRP-
19	52	100.0	9	2	AAW68371	Aaw68371 Human MAG
20	52	100.0	9	2	AAW75734	Aaw75734 Peptidase
21	52	100.0	9	2	AAW75736	Aaw75736 Peptidase
22	52	100.0	9	2	AAY02137	Aay02137 Peptide u
23	52	100.0	9	2	AAW56729	Aaw56729 MAGE-1 an
24	52	100.0	9	2	AAW98945	Aaw98945 HLA-A1 bi
25	52	100.0	9	2	AAY10424	Aay10424 HLA Class
26	52	100.0	9	2	AAY10623	Aay10623 Peptide a
27	52	100.0	9	2	AAY10633	Aay10633 Peptide a
28	52	100.0	9	2	AAY40228	Aay40228 Amino aci
29	52	100.0	9	2	AAY45884	Aay45884 Immunogen
30	52	100.0	9	2	AAY46334	Aay46334 Immunogen
31	52	100.0	9	2	AAY33147	Aay33147 Human MAG
32	52	100.0	9	2	AAY25177	Aay25177 MAGE-1 pe
33	52	100.0	9	2	AAY23250	Aay23250 Peptide d
34	52	100.0	9	2	AAY53541	Aay53541 Human MAG
35	52	100.0	9	2	AAY26884	Aay26884 Tumour-de
36	52	100.0	9	2	AAY22126	Aay22126 Tumour re
37	52	100.0	9	2	AAY00685	Aay00685 Tumour an
38	52	100.0	9	2	AAY49637	Aay49637 Tumour an
39	52	100.0	9	2	AAY01727	Aay01727 Exemplary
40	52	100.0	9	3	AAY71494	Aay71494 Human MAG
41	52	100.0	9	3	AAY90778	Aay90778 Human leu
42	52	100.0	9	3	AAB13741	Aab13741 Peptide f
43	52	100.0	9	3	AAY96509	Aay96509 MAGE-1 no
44	52	100.0	9	3	AAB33650	Aab33650 MHC class
45	52	100.0	9	3	AAB23659	Aab23659 Cytotoxic
46	52	100.0	9	3	AAY92275	Aay92275 MAGE-A1 a
47	52	100.0	9	3	AAY56591	Aay56591 MAGE-1 ge
48	52	100.0	9	3	AAY84270	Aay84270 Tumour as
49	52	100.0	9	3	AAY82953	Aay82953 MAGE-1 tu
50	52	100.0	9	3	AAB02596	Aab02596 Tumour as
51	52	100.0	9	3	AAB08668	Aab08668 Antigenic
52	52	100.0	9	4	AAM98899	Aam98899 Vaccine r
53	52	100.0	9	4	AAE02085	Aae02085 MAGE-A1 h
54	52	100.0	9	4	AAG64446	Aag64446 Human tum
55	52	100.0	9	4	AAB95896	Aab95896 MHC class
56	52	100.0	9	4	AAG93746	Aag93746 Human mel
57	52	100.0	9	4	AAU72014	Aau72014 MAGE-1 pr
58	52	100.0	9	4	AAB99968	Aab99968 Delayed t
59	52	100.0	9	4	AAB31302	Aab31302 Exemplary
60	52	100.0	9	4	AAB82003	Aab82003 HLA-A1 bi
61	52	100.0	9	4	AAE06810	Aae06810 Human MAG
62	52	100.0	9	5	AAE20396	Aae20396 Human mel
63	52	100.0	9	5	AAO17093	Aao17093 Human mag
64	52	100.0	9	5	AAM50608	Aam50608 Peptide f
65	52	100.0	9	5	AAE19080	Aae19080 HLA-A1 re
66	52	100.0	9	5	ABG66793	Abg66793 Tumour an
67	52	100.0	9	5	ABG80306	Abg80306 MHC class
68	52	100.0	9	5	ABG80107	Abg80107 MHC class
69	52	100.0	9	5	ABG80307	Abg80307 MHC class
70	52	100.0	9	5	ABG80315	Abg80315 MHC class
71	52	100.0	9	6	ABU96602	Abu96602 MHC class
72	52	100.0	9	6	ABR57344	Abr57344 MAGE-1.A1
73	52	100.0	9	6	ADA19520	Ada19520 Human can
74	52	100.0	9	6	AAO23446	Aao23446 MAGE-1 de
75	52	100.0	10	2	AAW23038	Aaw23038 MAGE-1/HL
76	52	100.0	10	2	AAY46094	Aay46094 Immunogen
77	52	100.0	10	2	AAY47254	Aay47254 Immunogen
78	52	100.0	10	4	AAE06811	Aae06811 Human MAG
79	52	100.0	10	4	AAE06814	Aae06814 Human MAG
80	52	100.0	10	4	AAE06852	Aae06852 Human MAG
81	52	100.0	11	2	AAY46072	Aay46072 Immunogen
82	52	100.0	12	2	AAR80620	Aar80620 Immunogen
83	52	100.0	12	4	AAE06807	Aae06807 Human MAG
84	52	100.0	15	3	AAY59636	Aay59636 Mage-1 ep
85	52	100.0	23	4	AAE06813	Aae06813 Human MAG
86	52	100.0	30	5	AAU85034	Aau85034 Human MAG
87	52	100.0	47	5	AAG66001	Aag66001 ALVAC(1)-
88	52	100.0	81	6	ABP72588	Abp72588 Melanoma
89	52	100.0	81	6	ABP72587	Abp72587 Melanoma
90	52	100.0	309	2	AAR70909	Aar70909 Human mel
91	52	100.0	309	2	AAW81548	Aaw81548 Tumour re
92	52	100.0	309	4	AAB31290	Aab31290 Amino aci
93	52	100.0	309	4	AAE06806	Aae06806 Human MAG
94	52	100.0	309	5	AAU84814	Aau84814 Human MAG
95	52	100.0	309	6	ABP74195	Abp74195 Human MAG
96	52	100.0	309	6	ABU08930	Abu08930 Human tum
97	52	100.0	309	7	ADC09573	Adc09573 MAGE-1 pr
98	52	100.0	310	6	AAO19742	Aao19742 Wild-type

99	52	100.0	445	2	AAY06592	Aay06592 CLYTA-MAG
100	52	100.0	446	2	AAY06590	Aay06590 Lipoprote
101	52	100.0	1052	6	ABR57354	Abr57354 MatDC16-C
102	52	100.0	3541	5	AAU85130	Aau85130 Human mel

ALIGNMENTS

RESULT 1
AAR29769
ID AAR29769 standard; peptide; 9 AA.
XX
AC AAR29769;
XX
DT 25-MAR-2003 (revised)
DT 22-APR-1993 (first entry)
XX
DE Antigen E peptide.
XX
KW Antigen; tumorigenic cell; A+ B+; T-cell; response; syngeneic; animal;
KW mouse; tumour rejection antigen precusor; TRAP; P1A.
XX
OS Homo sapiens.
XX
PN WO9220356-A1.
XX
PD 26-NOV-1992.
XX
PF 22-MAY-1992; 92WO-US004354.
XX
PR 23-MAY-1991; 91US-00705702.
PR 09-JUL-1991; 91US-00728838.
PR 23-SEP-1991; 91US-00764364.
PR 12-DEC-1991; 91US-00807043.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Boon T, Van Der Bruggen P, Van Den Eynde B, Van Pel A, De Plaen E;
PI Lurquin C, Chomez P, Traversari C;
XX
DR WPI; 1992-415460/50.
XX
PT Nucleic acid mol. encoding a human tumour rejection antigen precursor -
PT useful as an immunostimulant in a vaccine for treating and preventing
PT cancers, also useful in diagnosis.
XX
PS Disclosure; Page 97; 142pp; English.
XX
CC This sequence represents the sequence of the antigen E. Antigens such as
CC this one cause a T-cell response to be elicited which transplanted into a
CC syngeneic animal, usually a mouse. This antigen is derived from thecell
CC line MEL3.1. See also AAQ32351. (Updated on 25-MAR-2003 to correct PN
CC field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 2
AAR63675
ID AAR63675 standard; protein; 9 AA.
XX
AC AAR63675;
XX
DT 25-MAR-2003 (revised)
DT 22-JUN-1995 (first entry)
XX
DE Synthetic peptide derived from exon 3.1 of MAGE 1.
XX
KW Melanoma antigen-1; MAGE-1; cytolytic T cells; antigen E; exon 3.1.
XX
OS Synthetic.
XX
PN WO9423031-A1.
XX
PD 13-OCT-1994.
XX
PF 17-MAR-1994; 94WO-US002877.
XX
PR 26-MAR-1993; 93US-00037230.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Gaugler B, Van Den Eynde B, Boon-Falleur T, Van Der Bruggen P;
XX
DR WPI; 1994-333192/41.
XX
PT New tumour rejection antigen precursor MAGE3 - useful in treatment and
PT diagnosis of cancer.
XX
PS Example 34; Page 36; 105pp; English.
XX
CC AAR63675 is a synthetic peptide derived from exon 3.1 of melanoma antigen
CC -1 (MAGE-1), it was used to transfer antigen-E cytolytic T lymphocyte
CC sensitivity to normally non-sensitive cells. (Updated on 25-MAR-2003 to
CC correct PN field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 3
AAR50281
ID AAR50281 standard; protein; 9 AA.
XX
AC AAR50281;
XX
DT 25-MAR-2003 (revised)
DT 26-SEP-1994 (first entry)
XX
DE MAGE-1 nonapeptide.
XX
KW MAGE; nonapeptide; cancer; melanoma; breast cancer; HLA;
KW histocompatability; human leucocyte antigen; probe; treatment; therapy;
KW vaccine.
XX
OS Synthetic.
XX
PN WO9405304-A1.
XX
PD 17-MAR-1994.
XX
PF 30-AUG-1993; 93WO-US008157.
XX
PR 31-AUG-1992; 92US-00938334.
PR 26-MAR-1993; 93US-00037230.
PR 07-JUN-1993; 93US-00073103.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Boon-Falleur T, Van Der Bruggen P, De Plaen E, Lurquin C;

PI Traversari C;
XX
DR WPI; 1994-100844/12.
DR N-PSDB; AAQ44751.
XX
PT New nona:peptide derived from tumour rejection antigen precursor -
PT presented by HLA-A1 cancer cells, for use in diagnosis or therapy of esp.
PT melanoma and breast cancer.
XX
PS Disclosure; Page 19; 33pp; English.
XX
CC An isolated nonapeptide having the amino acid sequence Glu-Val-Asp- Pro-
CC Ile-Gly-His-Leu-Tyr is derived from the tumour rejection antigen
CC precursor encoded by the MAGE-3 gene and presented by HLA-A1. The
CC nonapeptide can be used in a vaccine to treat a cancerous condition
CC involving HLA-A1 subtype cancerous cells. The nucleic acid encoding the
CC nonapeptide can be used as a probe to identify tumour cells. This
CC sequence is homologous to the peptide described and is encoded by the
CC MAGE-1 gene. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 25
CC -MAR-2003 to correct PI field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 4
AAY38303
ID AAY38303 standard; peptide; 9 AA.
XX
AC AAY38303;
XX
DT 29-SEP-1999 (first entry)
XX
DE MAGE-derived HLA-binding peptide.
XX
KW Immunogen; HLA; human leukocyte antigen; binding motif; antiviral; MHC;
KW major histocompatability complex; viral infection; anticancer;
KW prostate cancer; lymphoma; hepatitis; AIDS; diagnostic; diagnosis.
XX
OS Homo sapiens.
XX
PN WO9403205-A1.
XX
PD 17-FEB-1994.
XX
PF 06-AUG-1993; 93WO-US007421.
XX
PR 07-AUG-1992; 92US-00926666.
PR 05-MAR-1993; 93US-00027746.
XX
PA (CYTE-) CYTEL CORP.
XX
PI Kubo RT, Grey HM, Sette A, Celis E;
XX
DR WPI; 1994-065403/08.
XX
PT Peptide which specifically binds selected MHC allele - used to induce an
PT immune response for treatment or prevention of viral infection or cancer,
PT or for diagnosis.
XX
PS Disclosure; Page 112; 150pp; English.
XX
CC The sequence is a specific example of a group of new immunogenic peptides
CC having an HLA-A3.2, HLA-A1, HLA-A11 or HLA-A24.1 binding motif. For
CC example, the peptides having an HLA-A3.2 binding motif each have 9-10
CC residues and contain, from the N-terminus to the C-terminus, (a) a first
CC conserved residue selected from L, M, I, V, S, A, T, F, C, G, D and E and
CC (b) a second conserved residue of K, R, Y, H or F, where the first and
CC second conserved residues are separated by 6-7 residues. The peptides are
CC capable of binding selected MHC molecules and inducing an immune
CC response. They can be used to treat and/or prevent viral infection and
CC cancer, e.g. prostate cancer, lymphoma, hepatitis or AIDS. They can also
CC be used to produce antibodies for use as diagnostic or therapeutic
CC agents. The peptides can also be used as diagnostic agents
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 5
AAR47330
ID AAR47330 standard; protein; 9 AA.
XX
AC AAR47330;
XX
DT 14-MAY-2003 (revised)
DT 25-MAR-2003 (revised)
DT 31-AUG-1994 (first entry)
XX
DE HLA-A1 MAGE 1 antigen peptide fragment 161-169.
XX
KW Immunogenic; HLA-A3.2; HLA-A1; HLA-A11; binding motif; MHC molecule;
KW immune response; viral infection; cancer; prostate cancer; lymphoma;
KW hepatitis; AIDS; antibody; diagnosis; melanoma antigen.
XX
OS Synthetic.
XX
PN WO9403205-A1.
XX
PD 17-FEB-1994.
XX
PF 06-AUG-1993; 93WO-US007421.
XX
PR 07-AUG-1992; 92US-00926666.
PR 05-MAR-1993; 93US-00027746.
XX
PA (CYTE-) CYTEL CORP.
XX
PI Kubo RT, Grey HM, Sette A, Celis E;
XX
DR WPI; 1994-065403/08.
XX
PT Peptide which specifically binds selected MHC allele - used to induce an
PT immune response for treatment or prevention of viral infection or cancer,
PT or for diagnosis.
XX
PS Example 8; Page 52; 150pp; English.
XX
CC The sequences given in AAR47304-33 and AAR49201-44 are immunogenic
CC peptides which have a HLA-A3.2, HLA-A1 or a HLA-A11 binding motif. These
CC peptides may be used in the composition of the invention. These peptides
CC are capable of binding selected MHC molecules and inducing an immune
CC response. They can be used to treat and/or prevent viral infection and
CC cancer, eg. prostate cancer, lymphoma, hepatitis or AIDS. They can also
CC be used to produce antibodies for use as diagnostic or therapeutic
CC agents. The peptides can also be used as diagnostic agents. (Updated on
CC 25-MAR-2003 to correct PN field.) (Updated on 14-MAY-2003 to correct PS
CC field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

RESULT 6
AAR49224
ID AAR49224 standard; protein; 9 AA.
XX
AC AAR49224;
XX
DT 14-MAY-2003 (revised)
DT 25-MAR-2003 (revised)
DT 31-AUG-1994 (first entry)
XX
DE HLA-A1 MAGE 1 antigen peptide fragment 958.01.
XX
KW Immunogenic; HLA-A3.2; HLA-A1; HLA-A11; binding motif; MHC molecule;
KW immune response; viral infection; cancer; prostate cancer; lymphoma;
KW hepatitis; AIDS; antibody; diagnosis; melanoma antigen. .
XX
OS Synthetic.
XX
PN WO9403205-A1.
XX
PD 17-FEB-1994.
XX
PF 06-AUG-1993; 93WO-US007421.
XX
PR 07-AUG-1992; 92US-00926666.
PR 05-MAR-1993; 93US-00027746.
XX
PA (CYTE-) CYTEL CORP.
XX
PI Kubo RT, Grey HM, Sette A, Celis E;
XX
DR WPI; 1994-065403/08.
XX
PT Peptide which specifically binds selected MHC allele - used to induce an
PT immune response for treatment or prevention of viral infection or cancer,
PT or for diagnosis.
XX
PS Example 16; Page 116; 150pp; English.
XX
CC The sequences given in AAR47304-33 and AAR49201-44 are immunogenic
CC peptides which have a HLA-A3.2, HLA-A1 or a HLA-A11 binding motif. These
CC peptides may be used in the composition of the invention. These peptides
CC are capable of binding selected MHC molecules and inducing an immune
CC response. They can be used to treat and/or prevent viral infection and
CC cancer, eg. prostate cancer, lymphoma, hepatitis or AIDS. They can also
CC be used to produce antibodies for use as diagnostic or therapeutic
CC agents. The peptides can also be used as diagnostic agents. (Updated on
CC 25-MAR-2003 to correct PN field.) (Updated on 14-MAY-2003 to correct PS
CC field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

RESULT 7
AAR78824
ID AAR78824 standard; peptide; 9 AA.
XX
AC AAR78824;
XX
DT 26-MAR-1996 (first entry)
XX
DE MAGE-1 cytotoxic T lymphocyte epitope.
XX
KW MAGE-1; cytotoxic T; CTL; epitope; helper T; HTL; lymphocyte; cell;
KW viruses; parasites; tumours; antigens; disease prevention; treatment.
XX
OS Homo sapiens.
XX
PN WO9522317-A1.
XX
PD 24-AUG-1995.
XX
PF 16-FEB-1995; 95WO-US002121.
XX
PR 16-FEB-1994; 94US-00197484.
XX
PA (CYTE-) CYTEL CORP.
XX
PI Vitiello MA, Chesnut RW, Sette AD, Celis E, Grey H;
XX
DR WPI; 1995-302545/39.
XX
PT Compsn. inducing cytotoxic T lymphocyte response to pref. viral,
PT bacterial, parasitic or tumour antigens - useful in the treatment and
PT prevention of diseases associated with the antigen e.g. hepatitis B.
XX
PS Disclosure; Page 17; 109pp; English.
XX
CC A compsn. which induces a cytotoxic T lymphocyte (CTL) response to an
CC antigen (Ag) in a mammal comprises, a CTL Ag response inducing peptide
CC (i.e. AAR78824-R78853) and a lipid conjugated helper T cell inducing
CC peptide. The compsn. induces a CTL response to bacterial, viral or tumour
CC Ags, and is therefore useful in the treatment and prevention of diseases
CC associated with the Ag
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

RESULT 8
AAR82988
ID AAR82988 standard; peptide; 9 AA.
XX
AC AAR82988;
XX
DT 25-MAR-2003 (revised)
DT 26-FEB-1996 (first entry)
XX
DE P815 antigenic peptide.
XX
KW P815 antigen; P1A antigen; cancer; vaccine.
XX
OS Synthetic.
XX
PN WO9523874-A1.
XX
PD 08-SEP-1995.
XX
PF 23-FEB-1995; 95WO-US002203.
XX
PR 01-MAR-1994; 94US-00204727.
PR 10-MAR-1994; 94US-00209172.
PR 01-SEP-1994; 94US-00299849.

PR 30-NOV-1994; 94US-00346774.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI De Plaen E, Boon-Falleur T, Lethe B, Szikora J, De Smet C;
PI Chomez P, Gaugler B, Van Den Eynde B, Brasseur F, Patard J;
PI Weynants P, Marchand M, Van Der Bruggen P;
XX
DR WPI; 1995-320586/41.
XX
PT Determn. of cancerous condition(s) - using a nucleic acid as a primer to
PT determine expression of a MAGE tumour rejection antigen precursor.
XX
PS Example 13; Page 22; 121pp; English.
XX
CC Using the sequence of the P815A antigen precursor gene P1A (AAT01176), an
CC antigenic peptide (AAR82988) which was A+B+ (i.e. characteristic of cells
CC which express both A and B antigens) was produced. The peptide lysed
CC PO.HTR cells in the presence of cytolytic T lymphocyte cell lines, and
CC may be useful as a vaccine component. (Updated on 25-MAR-2003 to correct
CC PI field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 9
AAR83932
ID AAR83932 standard; peptide; 9 AA.
XX
AC AAR83932;
XX
DT 05-JUN-1996 (first entry)
XX
DE MHC class I restricted antigenic peptide #2.
XX
KW MHC class I; antigen; MAGE; melanoma; breast cancer; bladder cancer;
KW Titermax; cytotoxic T-lymphocyte; tumour; pathogenic disease; bacteria;
KW parasite; human; animal.
XX
OS Synthetic.
XX
PN WO9528958-A1.
XX
PD 02-NOV-1995.
XX
PF 21-APR-1995; 95WO-US004975.
XX
PR 22-APR-1994; 94US-00233496.
XX
PA (SLOK) SLOAN KETTERING INST CANCER RES.
XX
PI Nikolic-Zugic J, Dyall R;
XX
DR WPI; 1995-382848/49.
XX
PT Cytotoxic T-cell induction by MHC class I-restricted peptide in adjuvant
PT - useful for treating tumours and bacterial or parasitic pathogenic
PT diseases.
XX
PS Claim 11; Page 38; 50pp; English.
XX
CC The sequences given in AAR83931-49 are MHC class I restricted 8-12 amino
CC acid antigenic peptides. This peptide is derived from MAGE and is present
CC in melanoma, breast and bladder cancer. These peptides may be
CC administered to a subject in combination with a suitable adjuvant, pref.
CC Titermax (RTM), to induce cytotoxic T- lymphocytes. This method may be
CC used in the treatment of a tumour or a pathogenic disease, esp. diseases
CC of bacterial or parasitic origin, in humans and animals, e.g monkeys,
CC dogs cows, horses, etc
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 10
AAR65112
ID AAR65112 standard; peptide; 9 AA.
XX
AC AAR65112;
XX
DT 25-MAR-2003 (revised)
DT 06-OCT-1995 (first entry)
XX
DE MAGE 1 immunogenic peptide 161-169.
XX
KW MAGE 1; immunogenic peptide 161-169; cytotoxic C cells;
KW in vitro activation; cancer; AIDS; bacterial infections; malaria;
KW fungal infections; tuberculosis; hepatitis.
XX
OS Homo sapiens.
XX
PN WO9504817-A1.
XX
PD 16-FEB-1995.
XX
PF 01-AUG-1994; 94WO-US008672.
XX
PR 06-AUG-1993; 93US-00103401.
XX
PA (CYTE-) CYTEL CORP.
XX
PI Celis E, Kubo R, Serra H, Tsai V, Wentworth P;
XX
DR WPI; 1995-090895/12.
XX
PT In vitro activation of cytotoxic T cells for selected killing of target
PT cells - for treating e.g. cancer, AIDS, hepatitis etc.by incubating them
PT with antigen presenting cells loaded with appropriate immunogenic
PT peptide.
XX
PS Example 3; Page 35; 53pp; English.
XX
CC AAR65109-R65145 are immunogenic peptides, they are used in a new method
CC for the in vitro activation of cytotoxic T cells (CTC). This is achieved
CC by incubating the CTCs with antigen presenting cells loaded with an
CC appropriate immunogenic peptide (e.g. one of the above peptides). By
CC selecting the peptides used the following diseases and infections can be
CC treated; cancer, AIDS, hepatitis, other viral and bacterial infections,
CC malaria and tuberculosis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

```
RESULT 11
AAR65135
ID   AAR65135 standard; peptide; 9 AA.
XX
AC   AAR65135;
XX
DT   25-MAR-2003  (revised)
DT   09-OCT-1995  (first entry)
XX
DE   MAGE 1 immunogenic peptide A01.
XX
KW   MAGE 1; immunogenic peptide A01; cytotoxic C cells; in vitro activation;
KW   cancer; AIDS; bacterial infections; malaria; fungal infections;
KW   tuberculosis; hepatitis.
XX
OS   Homo sapiens.
XX
PN   WO9504817-A1.
XX
PD   16-FEB-1995.
XX
PF   01-AUG-1994;   94WO-US008672.
XX
PR   06-AUG-1993;   93US-00103401.
XX
PA   (CYTE-) CYTEL CORP.
XX
PI   Celis E,  Kubo R,  Serra H,  Tsai V,  Wentworth P;
XX
DR   WPI; 1995-090895/12.
XX
PT   In vitro activation of cytotoxic T cells for selected killing of target
PT   cells - for treating e.g. cancer, AIDS, hepatitis etc.by incubating them
PT   with antigen presenting cells loaded with appropriate immunogenic
PT   peptide.
XX
PS   Example 3; Page 38; 53pp; English.
XX
CC   AAR65109-R65145 are immunogenic peptides, they are used in a new method
CC   for the in vitro activation of cytotoxic T cells (CTC). This is achieved
CC   by incubating the CTCs with antigen presenting cells loaded with an
CC   appropriate immunogenic peptide (e.g. one of the above peptides). By
CC   selecting the peptides used the following diseases and infections can be
CC   treated; cancer, AIDS, hepatitis, other viral and bacterial infections,
CC   malaria and tuberculosis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 2;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 12
AAR75954
ID   AAR75954 standard; peptide; 9 AA.
XX
AC   AAR75954;
XX
DT   06-MAR-1996  (first entry)
XX
DE   Melanoma antigen (MAGE-1) epitope.
XX
KW   MAGE-3; melanoma antigen; vaccine; immune response; immunogenic peptide;
KW   cytotoxic T lymphocyte response; CTL; melanoma; breast cancer; antibody.
XX
OS   Homo sapiens.
XX
PN   WO9519783-A1.
XX
PD   27-JUL-1995.
XX
PF   25-JAN-1995;   95WO-US001000.
XX
PR   25-JAN-1994;   94US-00186266.
XX
PA   (CYTE-) CYTEL CORP.
XX
PI   Kubo RT,  Grey HM,  Sette A,  Celis E;
XX
DR   WPI; 1995-269270/35.
XX
PT   Immunogenic peptide(s) that induce immune response to cancer cells - that
PT   express a MAGE-3 protein peptide epitope used in vaccines or adoptive
PT   immuno:therapy to induce cytotoxic T lymphocytes.
XX
PS   Example; Page 33; 44pp; English.
XX
CC   AAR75954 is derived from MAGE-1 protein. It was used to show the
CC   specificity of CTL response to MAGE-3 peptides shown in AAR75942-53.
CC   AAR75942 is derived from the sequence of the melanoma antigen (MAGE-3)
CC   protein and can be used to elicit a primary cytotoxic T lymphocyte
CC   response against cells expressing MAGE-3. Synthetic peptides AAR75945-53
CC   can be used therapeutically to elicit CTL responses to melanoma, breast,
CC   colon, prostate, or other cells which express proteins with this epitope.
CC   The peptides have specific HLA-A1 binding capacity
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 2;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 13
AAR99343
ID   AAR99343 standard; protein; 9 AA.
XX
AC   AAR99343;
XX
DT   22-APR-1997  (first entry)
XX
DE   MAGE-1 nonapeptide.
XX
KW   HLA binding peptide; cell lysis; cytolytic T cell; MAGE family; human;
KW   tumour rejection antigen precursor; TRA; MAGE-1; tumour; cancer cell;
KW   antibody; melanoma; universal effector cell; vaccine; breast cancer; CTL;
KW   therapy.
XX
OS   Homo sapiens.
XX
PN   WO9626214-A1.
XX
PD   29-AUG-1996.
XX
PF   01-FEB-1996;   96WO-US001489.
XX
PR   23-FEB-1995;   95US-00393273.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Boon-Falleur T,  Van Der Bruggen P,  De Plaen E,  Lurquin C;
PI   Gaugler B,  Van Den Eynde B,  Traversari C,  Romero P;
XX
DR   WPI; 1996-402317/40.
DR   N-PSDB; AAT35408.
XX
PT   New nona:peptide(s) that bind to HLA molecule(s) and induce lysis - by
```

PT specific cytolytic T cells, for diagnosis and treatment of tumours and to
PT expand T cells in vitro.
XX
PS Example 4; Fig 4; 41pp; English.
XX
CC AAR99343-R99350 represent MAGE nonapeptides, based on the tumour
CC rejection antigen region of the full length MAGE sequences. These
CC peptides were used to design the nonapeptides of the invention (see
CC AAR99337-R99342), which bind to a HLA molecule on a cell, and provoke
CC lysis by cytolytic T cells (CTLs) specific for a complex of the HLA
CC molecule and nonapeptide. The nonapeptides can be used diagnostically to
CC identify tumours expressing a particular HLA molecule, or to identify
CC cancer cells. The peptides can also be used therapeutically, to induce a
CC CTL response to tumours (where the peptides are optionally coupled to
CC tumour-specific antibodies), or to induce a response by CTLs that are
CC otherwise inactive. The peptide sequences may also be used to expand
CC specific CTLs in vitro for later return to the patient, such as for
CC treating melanoma. Tumour cells can be identified by using DNA encoding
CC the nonapeptides as probes. Non-human cells transformed with the HLA-A1
CC gene and a DNA sequence encoding one of the peptides, can be used to
CC generate CTLs, or to detect the presence of CTLs in human samples. The
CC non-human transformed cells, when polytransformed, are universal effector
CC cells, and can be used in vaccines, or for treating melanoma or breast
CC cancer
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 14
AAR90692
ID AAR90692 standard; peptide; 9 AA.
XX
AC AAR90692;
XX
DT 31-JUL-1996 (first entry)
XX
DE Human leukocyte antigen (HLA-A1) presented peptide MZ2-E.
XX
KW Human leukocyte antigen; HLA-A1; MAGE-1 derived; blood mononuclear cell;
KW BMC; CD8-beta+ cell; cytolytic T cell; CTL cell; treatment; tumour cell;
KW diagnosis; assay; presented peptide.
XX
OS Synthetic.
XX
PN WO9535500-A1.
XX
PD 28-DEC-1995.
XX
PF 14-JUN-1995; 95WO-US007559.
XX
PR 17-JUN-1994; 94US-00261541.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Coulie P, Van Der Bruggen P, Boon-Falleur T;
XX
DR WPI; 1996-058510/06.
XX
PT Prodn. of specific cytolytic T cell sub-populations - by contacting blood
PT mononuclear cells with specific peptide(s) and a population of CD8-
PT beta(+) cells.
XX
PS Claim 5; Page 19; 25pp; English.
XX
CC The present peptide is the human leukocyte antigen (HLA-A1), MAGE-1
CC derived presented peptide, MZ2-E. By contacting a sample of blood
CC mononuclear cells (BMC) with the peptide (which binds directly to HLA-A1
CC mols. on the surface of the BMC) and CD8-beta+ cells (which stimulate
CC peptide/HLA-A1 complex specific CD8-beta+ cells), a peptide/HLA-A1
CC complex specific cytolytic T (CTL) cell subpopulation can be obtd. . The
CC CTL cells obtd. can be administered to a patient to treat tumour cell
CC related conditions, and can be used in diagnostic methods, e.g. in assays
CC for the peptide/HLA-A1 complex
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 15
AAW00897
ID AAW00897 standard; peptide; 9 AA.
XX
AC AAW00897;
XX
DT 23-MAY-1997 (first entry)
XX
DE Human melanoma MAGE1 tumour associated antigen p161-169.
XX
KW Adeno-associated virus; vector; liposome; transfection; dendritic cell;
KW melanoma; MAGE1; adoptive immunotherapy; tumour associated antigen.
XX
OS Homo sapiens.
XX
PN WO9703703-A1.
XX
PD 06-FEB-1997.
XX
PF 19-JUL-1996; 96WO-US012012.
XX
PR 21-JUL-1995; 95US-0001312P.
PR 01-NOV-1995; 95US-0007184P.
PR 01-DEC-1995; 95US-00566286.
XX
PA (RHON) RHONE POULENC RORER PHARM INC.
XX
PI Philip R, Lebkowski JS;
XX
DR WPI; 1997-145208/13.
XX
PT Adeno-associated virus:liposome complexes for transfecting dendritic
PT cells - for inducing immune response, useful for treating e.g. neoplasia
PT or infections.
XX
PS Example 5; Page 58; 134pp; English.
XX
CC Tumour associated antigens (AAW13660-61, AAW00878-903) can be loaded into
CC dendritic cells and used to induce antitumour immunity. Alternatively,
CC the dendritic cells are transfected with adeno associated virus plasmid
CC DNA (which includes DNA encoding the tumour associated antigen) complexed
CC with cationic liposomes. The amtigen loaded or transfected dendritic
CC cells can be used to generate tumour antigen-specific cytotoxic T
CC lymphocytes for use in adoptive immunotherapy in a patient having the
CC corresponding tumour. A suitable antigen comprises amino acids 161-169
CC (AAW00897) of human melanoma MAGE1
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 16
AAW54622
ID   AAW54622 standard; peptide; 9 AA.
XX
AC   AAW54622;
XX
DT   25-SEP-1998  (first entry)
XX
DE   Peptide from Mage-1 161-169.
XX
KW   Mannose; antigen; antigen-presenting cell; mannosylated peptide; T cell;
KW   vaccine; treatment.
XX
OS   Synthetic.
XX
PN   WO9813378-A1.
XX
PD   02-APR-1998.
XX
PF   25-SEP-1997;   97WO-NL000536.
XX
PR   26-SEP-1996;   96EP-00202701.
XX
PA   (UYLE-) RIJKSUNIV LEIDEN.
XX
PI   Koning F,  Drijfhout JW;
XX
DR   WPI; 1998-230631/20.
XX
PT   Increasing uptake and presentation of antigen(s) - by adding mannose
PT   residue(s) to antigen for increasing T cell response, useful in, e.g.
PT   vaccines against viral infection(s).
XX
PS   Disclosure; Page 28; 47pp; English.
XX
CC   The peptides AAW54559-W54809 are examples of peptides to which at least 1
CC   (preferably 2) mannose can be attached to increase their uptake as
CC   antigens by antigen-presenting cells. Uptake of agonist mannosylated
CC   peptides will increase the T cell response, whereas uptake of antagonist
CC   peptides blocks the T cell response. Blocking binding of immunogenic
CC   autoantigens can be used in treatment of type I diabetes, rheumatoid
CC   arthritis, graft rejection etc., also to induce T-cell non-
CC   responsiveness. Vaccines containing mannosylated antigen are used to
CC   prevent or treat infections by, e.g. bacteria, viruses, fungi, helminths
CC   and parasites
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 2;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 17
AAW78838
ID   AAW78838 standard; peptide; 9 AA.
XX
AC   AAW78838;
XX
DT   17-NOV-1998  (first entry)
XX
DE   MAGE-1 protein fragment 161-169.
XX
KW   Microparticle; delivery; polymeric matrix; autoantigen; tumour antigen;
KW   class II associated peptide; pathogen; gene therapy; genetic disease;
KW   infection; downregulation; immune response.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO9831398-A1.
XX
PD   23-JUL-1998.
XX
PF   22-JAN-1998;   98WO-US001499.
XX
PR   22-JAN-1997;   97US-00787547.
PR   06-JAN-1998;   98US-00003253.
XX
PA   (PANG-) PANGAEA PHARM INC.
XX
PI   Hedley ML,  Curley JM,  Langer RS,  Lunsford LB;
XX
DR   WPI; 1998-427556/36.
XX
PT   New preparations of microparticles - comprising a synthetic polymer
PT   matrix and nucleic acid comprising an expression vector for use in gene
PT   therapy.
XX
PS   Disclosure; Page 10; 101pp; English.
XX
CC   A microparticle preparation (MP) has been developed, consisting of
CC   microparticles having a diameter of less than 100 mu m. The MP comprises:
CC   (a) a polymeric matrix (PM) consisting of one or more synthetic polymers
CC   having a solubility in water of less that 1 mg/l; and (b) an expression
CC   vector selected from RNA molecules (at least 50% of which are closed
CC   circles) or circular plasmid DNA (at least 50% of which are supercoiled).
CC   Also described is a MP of at most 20 microns in diameter, comprising: (a)
CC   a PM; and (b) a NAM comprising an expression control sequence operatively
CC   linked to a coding sequence, where the coding sequence encodes an
CC   expression product selected from: (1) a polypeptide at least 7 amino
CC   acids in length, having a sequence identical to the sequence of: (i) a
CC   fragment of a naturally-occurring mammalian protein; or (ii) a fragment
CC   of a naturally-occurring protein from an infectious agent which infects a
CC   mammal; (2) a peptide having a length and sequence which permits it to
CC   bind to an MHC class I or II molecule; and (3) the polypeptide or the
CC   peptide linked to a trafficking sequence. AAW69763 to AAW69765, and
CC   AAW78793 to AAW78897 are peptide fragments for use in the present
CC   invention. The MPs are highly effective vehicles for the delivery of
CC   polynucleotides into phagocytic cells. They can be used for gene therapy,
CC   e.g. for treating genetic diseases, infections or tumours or for
CC   downregulating an immune response
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 2;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 18
AAW77125
ID   AAW77125 standard; peptide; 9 AA.
XX
AC   AAW77125;
XX
DT   16-NOV-1998  (first entry)
XX
DE   gp75/TRP-1 synthetic peptide epitope 1.
XX
KW   Tyrosinase; tyrosinase cytotoxic lymphocyte response;
KW   cytotoxic T lymphocyte; cysteine-depleted; melanoma.
XX
```

OS Synthetic.
XX
PN WO9833810-A2.
XX
PD 06-AUG-1998.
XX
PF 29-JAN-1998; 98WO-US001592.
XX
PR 30-JAN-1997; 97US-0037781P.
XX
PA (UYVI-) UNIV VIRGINIA PATENT FOUND.
XX
PI Slingluff CL, Hunt DF, Engelhard VH, Kittlesen D;
XX
DR WPI; 1998-437388/37.
XX
PT Disease specific immunogen - comprises disease specific cytotoxic T
PT lymphocyte epitope used to elicit melanoma specific CTL response.
XX
PS Disclosure; Page 27; 93pp; English.
XX
CC The peptide epitope AAW77119-W77138 were created for human tumour-
CC specific cytotoxic T lymphocyte response. These peptides are are cysteine
CC - depleted mutants of a native disease-specific CTL epitope. The cysteine
CC - depleted CTL epitopes elicit a stronger or more specific CTL response
CC than the native epitope. The epitopes can be used in a disease-specific
CC immunogen to protect a mammal against disease in particular melanomas.
CC The peptides may also be used to screen a sample for the presence of an
CC antigen with the same epitope, or with a different cross-reactive epitope
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 19
AAW68371
ID AAW68371 standard; peptide; 9 AA.
XX
AC AAW68371;
XX
DT 25-MAR-2003 (revised)
DT 14-OCT-1998 (first entry)
XX
DE Human MAGE-1 peptide binds HLA-A1.
XX
KW Antigen; major histocompatibility complex; MHC; lymphocyte; detection;
KW immobilisation; cytotoxic T-cell; tumour; leukaemia; lymphoma;
KW viral infection.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9744667-A2.
XX
PD 27-NOV-1997.
XX
PF 21-MAY-1997; 97WO-FR000892.
XX
PR 21-MAY-1996; 96US-00651925.
XX
PA (INSP) INST PASTEUR.
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE.
XX
PI Langladedemoyen P, Lone Y, Kourilsky P, Abastado J;
XX
DR WPI; 1998-018653/02.
XX
PT Detection, purification and elimination of antigen-specific lymphocytes -
PT for producing cytotoxic T cells for immuno-therapy of cancers and viral
PT infection.
XX
PS Disclosure; Page 30; 222pp; French.
XX
CC Peptides AAW68301-W68384 are examples of antigens (Ag) which can be
CC loaded onto recombinantly produced major histocompatibility complex (MHC)
CC molecules in a method of detecting antigen-specific lymphocytes. The MHC-
CC antigen complex is then immobilised on a solid support and a sample
CC containing cells recognising the MHC-Ag complex may be isolated. This
CC peptide is derived from the human MAGE-1 protein and binds the human
CC leukocyte antigen A1 (HLA-A1). A similar method is used to isolate,
CC purify or eliminate Ag-specific T-cells or to produce Ag-specific
CC cytotoxic T-cells (CTC). The method is also used to detect and quantify
CC tumour-specific T-cells and to generate CTC for specific killing of
CC tumour cells (solid tumours, leukaemia or lymphoma) by injection into a
CC human or animal, but also for treating viral infections. (Updated on 25-
CC MAR-2003 to correct PI field.)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 20
AAW75734
ID AAW75734 standard; peptide; 9 AA.
XX
AC AAW75734;
XX
DT 19-NOV-1998 (first entry)
XX
DE Peptidase-resistant peptide 2.
XX
KW Tumour antigen MZ2-E; T-cell; immunotherapy; cytolytic T-cell; CTL;
KW therapeutic agent; peptidase; MZ2-E antigen peptide analogue; HLA;
KW human leucocyte antigen; MHC; lysis; vaccine.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 2
FT /note= "D-form residue"
FT Misc-difference 8
FT /note= "D-form residue"
XX
PN WO9833511-A1.
XX
PD 06-AUG-1998.
XX
PF 19-NOV-1997; 97WO-US021296.
XX
PR 05-FEB-1997; 97US-00795733.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
PA (CNRS) CENT NAT RECH SCI.
XX
PI Ayyoub M, Monsarrat B, Mazarguil H, Van Den Eynde B, Gairin JE;
XX
DR WPI; 1998-437166/37.
XX
PT Peptidase-resistant peptide(s) that bind to HLA molecules and related
PT antibodies - particularly for treatment of cancer by inducing
PT proliferation of cytotoxic T cells.
XX

PS Claim 20; Page 20; 32pp; English.
XX
CC Sequences AAW75733-W75736 are peptidase-resistant peptides which are
CC analogues of the tumour antigen MZ2-E. This antigen is a potential target
CC for T-cell based immunotherapy and can also be used to stimulate the
CC antigen-specific CTL, however its use as a therapeutic agent is limited
CC due to its degradation by peptidase. The MZ2-E antigen peptide analogues
CC were modified at both peptidase sensitive portions, and were all shown to
CC exhibit a longer half-life relative to peptidase degradation as well as
CC the ability to bind a human leucocyte antigen (HLA). The specific
CC peptides AAW75733 and AAW75735 were established to have a comparable
CC affinity for the MHC as the tumour antigen, and AAW75735 was found to be
CC the ideal peptide analog to use due to it also being able to sensitise
CC the target cells to lysis by effector molecules at similar concentrations
CC to those of the antigen MZ2-E. These peptide analogues can be used in
CC vaccines to induce an immune response for treating conditions in which
CC abnormal HLA/peptide complexes are present on the surface of cells
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 21
AAW75736
ID AAW75736 standard; peptide; 9 AA.
XX
AC AAW75736;
XX
DT 19-NOV-1998 (first entry)
XX
DE Peptidase-resistant peptide 4.
XX
KW Tumour antigen MZ2-E; T-cell; immunotherapy; cytolytic T-cell; CTL;
KW therapeutic agent; peptidase; MZ2-E antigen peptide analogue; HLA;
KW human leucocyte antigen; MHC; lysis; vaccine.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 2
FT /note= "N-Methyl-Alanine"
FT Modified-site 8
FT /note= "N-Methyl-Serine"
XX
PN WO9833511-A1.
XX
PD 06-AUG-1998.
XX
PF 19-NOV-1997; 97WO-US021296.
XX
PR 05-FEB-1997; 97US-00795733.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
PA (CNRS) CENT NAT RECH SCI.
XX
PI Ayyoub M, Monsarrat B, Mazarguil H, Van Den Eynde B, Gairin JE;
XX
DR WPI; 1998-437166/37.
XX
PT Peptidase-resistant peptide(s) that bind to HLA molecules and related
PT antibodies - particularly for treatment of cancer by inducing
PT proliferation of cytotoxic T cells.
XX
PS Claim 20; Page 20; 32pp; English.
XX
CC Sequences AAW75733-W75736 are peptidase-resistant peptides which are
CC analogues of the tumour antigen MZ2-E. This antigen is a potential target
CC for T-cell based immunotherapy and can also be used to stimulate the
CC antigen-specific CTL, however its use as a therapeutic agent is limited
CC due to its degradation by peptidase. The MZ2-E antigen peptide analogues
CC were modified at both peptidase sensitive portions, and were all shown to
CC exhibit a longer half-life relative to peptidase degradation as well as
CC the ability to bind a human leucocyte antigen (HLA). The specific
CC peptides AAW75733 and AAW75735 were established to have a comparable
CC affinity for the MHC as the tumour antigen, and AAW75735 was found to be
CC the ideal peptide analog to use due to it also being able to sensitise
CC the target cells to lysis by effector molecules at similar concentrations
CC to those of the antigen MZ2-E. These peptide analogues can be used in
CC vaccines to induce an immune response for treating conditions in which
CC abnormal HLA/peptide complexes are present on the surface of cells
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 22
AAY02137
ID AAY02137 standard; peptide; 9 AA.
XX
AC AAY02137;
XX
DT 07-JUL-1999 (first entry)
XX
DE Peptide used to produce compounds that cross-link receptors.
XX
KW Cross-link; homobivalent; heterobivalent; antagonist; agonist; receptor;
KW lymphocyte; haematopoietic cell; activation; proliferation; human CD26;
KW CD26; HIV; neoplasm; chemotherapy; radiation therapy;
KW immune system cell depletion; kidney failure; bone marrow deficiency;
KW immunodeficiency.
XX
OS Synthetic.
XX
PN WO9800439-A2.
XX
PD 08-JAN-1998.
XX
PF 27-JUN-1997; 97WO-US011279.
XX
PR 28-JUN-1996; 96US-00671756.
PR 11-APR-1997; 97US-00837305.
XX
PA (TUFT) TUFTS COLLEGE.
XX
PI Bachovchin WW;
XX
DR WPI; 1998-110200/10.
XX
PT New multi-valent compounds for crosslinking receptors - used for treating
PT auto-immune conditions.
XX
PS Disclosure; Page 103; 141pp; English.
XX
CC The specification describes synthetic cross-linking homobivalent and
CC heterobivalent compounds. These compounds are low in molecular weight,
CC have antagonistic or agonistic activity, and induce the association
CC between two natural receptors. The compounds are contacted (preferably ex
CC vivo) with lymphocytes or haematopoietic cells to stimulate activation or
CC proliferation of human CD26-bearing lymphocytes or CD26-bearing
CC haematopoietic cells in humans suffering from disease states
CC characterised by inadequate lymphocyte activation or concentration e.g.
CC HIV; a neoplasm (where the CD26-bearing lymphocytes are cytolytic or

CC helper T-cells); the side-effects of chemotherapy or radiation therapy,
CC resulting in depletion of immune system cells derived from lymphoid,
CC erythroid and myeloid lineages; kidney failure resulting in depletion of
CC immune cells; bone marrow deficiency resulting in immunodeficiency; or
CC immunodeficiency symptoms resulting from depletion of immune cells. The
CC present sequence is used in the production of the compounds of the
CC invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 23
AAW56729
ID AAW56729 standard; peptide; 9 AA.
XX
AC AAW56729;
XX
DT 31-JUL-1998 (first entry)
XX
DE MAGE-1 antigenic partial peptide sequence (residues 161-169).
XX
KW MAGE; replication defective; adenovirus; tumour; antigen; cancer;
KW immunotherapy; tumour rejection antigen precursor; TRAP; CTL;
KW human leukocyte antigen; HLA; cytolytic T lymphocyte.
XX
OS Synthetic.
XX
PN WO9815638-A2.
XX
PD 16-APR-1998.
XX
PF 06-OCT-1997; 97WO-US017948.
XX
PR 06-OCT-1996; 96US-0027891P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Reed DS, Romero P, Rimoldi D, Cerrottini J, Jongeneel CV;
XX
DR WPI; 1998-240824/21.
XX
PT New replication-defective adenoviruses - comprise insert encoding tumour
PT rejection antigen precursor(s), useful for, e.g. cancer immuno-therapy.
XX
PS Example; Page 42; 56pp; English.
XX
CC This is a partial sequence of the MAGE-1 antigenic peptide used in the
CC methods of the invention. The specification provides a new nucleic acid
CC molecule comprising a replication-defective adenovirus genome containing
CC an insert encoding a tumour rejection antigen precursor (TRAP). The
CC replication-defective adenovirus genome is useful as a vector for
CC introducing a TRAP molecule into mammalian (especially human) cells. The
CC recombinant adenovirus is preferably targetted to tumour cells, e.g. by
CC binding a ligand to the virus coat. The TRA peptides which are generated
CC from the expressed TRAP are presented by human leukocyte antigen (HLA)
CC molecules and as a result cytolytic T lymphocyte (CTL) production is
CC increased (claimed). The CTL's then kill the TRAP-expressing tumour
CC cells. Also, cells transfected by the recombinant adenovirus can be used
CC for assessing the processing of TRAPs, including post-translational
CC modifications. The adenovirus (genome) can be administered by injection,
CC topical application or intracavitarily in 106-1010 pfu doses. The range
CC of TRA peptides produced by replication-defective adenovirus means that
CC patients with a range of HLA phenotypes can be treated. Also, host cell
CC immune response to TRA's is enhanced, e.g. by induction of tumour-
CC specific cytolytic T lymphocytes
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 24
AAW98945
ID AAW98945 standard; peptide; 9 AA.
XX
AC AAW98945;
XX
DT 06-MAY-1999 (first entry)
XX
DE HLA-A1 binding peptide derived from MAGE-1.
XX
KW Human leukocyte antigen; HLA; HLA-A2 binding peptide; T cell;
KW cytolytic T cell; CTL.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9858951-A1.
XX
PD 30-DEC-1998.
XX
PF 18-JUN-1998; 98WO-US012879.
XX
PR 23-JUN-1997; 97US-00880963.
PR 16-APR-1998; 98US-00061388.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Valmori D, Cerottini J, Romero P;
XX
DR WPI; 1999-105609/09.
XX
PT New decamer peptides which bind to HLA molecules - useful to identify HLA
PT -A2 positive cells and provoke T cells.
XX
PS Example 7; Page 18; 45pp; English.
XX
CC The present invention describes peptides which bind to an HLA-A2 molecule
CC and have Val at the carboxy terminus, and either: (a) Ala, Tyr or Phe at
CC the amino terminus, and Ala at position 2 (P1); or (b) Glu at the amino
CC terminus, and Ala, Leu, or Met at positions 2 and 3, with the proviso
CC that Ala is not at both positions (P2). The peptides of the present
CC invention are used to identify HLA-A2 positive cells, provoke T cells,
CC and determine the presence of particular T cells including cytolytic T
CC cells (CTLs). They provide a better target than the prior art CTL-
CC stimulating peptide. The present sequence represents a peptide used in an
CC example from the present invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 25
AAY10424
ID AAY10424 standard; peptide; 9 AA.

XX
AC AAY10424;
XX
DT 12-MAY-1999 (first entry)
XX
DE HLA Class I motif peptide SEQ ID NO:354.
XX
KW Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic system;
KW immunisation; tumour; infectious disease; immunotherapy; cancer;
KW malignant melanoma; viral disease; hepatitis; AIDS.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9902183-A2.
XX
PD 21-JAN-1999.
XX
PF 10-JUL-1998; 98WO-US014289.
XX
PR 10-JUL-1997; 97CA-02209815.
PR 10-DEC-1997; 97US-00988320.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Kuendig TM, Simard JJL;
XX
DR WPI; 1999-120514/10.
XX
PT Inducing a cytotoxic T lymphocyte response - by maintaining a level of
PT antigen in the lymphatic system of a mammal so as to provide a sustained
PT CTL response, used to treat, e.g. AIDS.
XX
PS Disclosure; Page 39; 199pp; English.
XX
CC The present invention describes a method of inducing and/or sustaining an
CC immunological cytotoxic T lymphocyte (CTL) response in a mammal. The
CC method comprises: (a) delivering an antigen to the mammal at a level to
CC induce an immunological CTL response in the mammal; and (b) maintaining
CC the level of the antigen in the mammal's lymphatic system to maintain the
CC immunologic CTL response. The method can be used for the delivery of e.g.
CC a differentiation antigen, a tumour-specific multilineage antigen, an
CC embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene
CC antigen, or a viral antigen. They can be used for the treatment of
CC disease such as cancer, e.g. malignant melanoma or infectious disease,
CC e.g. viral disease such as hepatitis or AIDS. Sustained antigen delivery
CC to the lymphatic system provides for potent CTL stimulation that takes
CC place in the milieu of the lymphoid organ, and it sustains stimulation
CC that is necessary to keep CTL active, cytotoxic and recirculating through
CC the body. AAY10071 to AAY10639 represent examples of peptide antigens
CC given in the present invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 26
AAY10623
ID AAY10623 standard; peptide; 9 AA.
XX
AC AAY10623;
XX
DT 12-MAY-1999 (first entry)
XX
DE Peptide antigen SEQ ID NO:553.
XX
KW Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic system;
KW immunisation; tumour; infectious disease; immunotherapy; cancer;
KW malignant melanoma; viral disease; hepatitis; AIDS.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9902183-A2.
XX
PD 21-JAN-1999.
XX
PF 10-JUL-1998; 98WO-US014289.
XX
PR 10-JUL-1997; 97CA-02209815.
PR 10-DEC-1997; 97US-00988320.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Kuendig TM, Simard JJL;
XX
DR WPI; 1999-120514/10.
XX
PT Inducing a cytotoxic T lymphocyte response - by maintaining a level of
PT antigen in the lymphatic system of a mammal so as to provide a sustained
PT CTL response, used to treat, e.g. AIDS.
XX
PS Disclosure; Page 51; 199pp; English.
XX
CC The present invention describes a method of inducing and/or sustaining an
CC immunological cytotoxic T lymphocyte (CTL) response in a mammal. The
CC method comprises: (a) delivering an antigen to the mammal at a level to
CC induce an immunological CTL response in the mammal; and (b) maintaining
CC the level of the antigen in the mammal's lymphatic system to maintain the
CC immunologic CTL response. The method can be used for the delivery of e.g.
CC a differentiation antigen, a tumour-specific multilineage antigen, an
CC embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene
CC antigen, or a viral antigen. They can be used for the treatment of
CC disease such as cancer, e.g. malignant melanoma or infectious disease,
CC e.g. viral disease such as hepatitis or AIDS. Sustained antigen delivery
CC to the lymphatic system provides for potent CTL stimulation that takes
CC place in the milieu of the lymphoid organ, and it sustains stimulation
CC that is necessary to keep CTL active, cytotoxic and recirculating through
CC the body. AAY10071 to AAY10639 represent examples of peptide antigens
CC given in the present invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 27
AAY10633
ID AAY10633 standard; peptide; 9 AA.
XX
AC AAY10633;
XX
DT 12-MAY-1999 (first entry)
XX
DE Peptide antigen SEQ ID NO:563.
XX
KW Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic system;
KW immunisation; tumour; infectious disease; immunotherapy; cancer;
KW malignant melanoma; viral disease; hepatitis; AIDS.
XX
OS Synthetic.
OS Homo sapiens.
XX

PN WO9902183-A2.
XX
PD 21-JAN-1999.
XX
PF 10-JUL-1998; 98WO-US014289.
XX
PR 10-JUL-1997; 97CA-02209815.
PR 10-DEC-1997; 97US-00988320.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Kuendig TM, Simard JJL;
XX
DR WPI; 1999-120514/10.
XX
PT Inducing a cytotoxic T lymphocyte response - by maintaining a level of
PT antigen in the lymphatic system of a mammal so as to provide a sustained
PT CTL response, used to treat, e.g. AIDS.
XX
PS Disclosure; Page 52; 199pp; English.
XX
CC The present invention describes a method of inducing and/or sustaining an
CC immunological cytotoxic T lymphocyte (CTL) response in a mammal. The
CC method comprises: (a) delivering an antigen to the mammal at a level to
CC induce an immunological CTL response in the mammal; and (b) maintaining
CC the level of the antigen in the mammal's lymphatic system to maintain the
CC immunologic CTL response. The method can be used for the delivery of e.g.
CC a differentiation antigen, a tumour-specific multilineage antigen, an
CC embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene
CC antigen, or a viral antigen. They can be used for the treatment of
CC disease such as cancer, e.g. malignant melanoma or infectious disease,
CC e.g. viral disease such as hepatitis or AIDS. Sustained antigen delivery
CC to the lymphatic system provides for potent CTL stimulation that takes
CC place in the milieu of the lymphoid organ, and it sustains stimulation
CC that is necessary to keep CTL active, cytotoxic and recirculating through
CC the body. AAY10071 to AAY10639 represent examples of peptide antigens
CC given in the present invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 28
AAY40228
ID AAY40228 standard; peptide; 9 AA.
XX
AC AAY40228;
XX
DT 19-NOV-1999 (first entry)
XX
DE Amino acid sequence of a MAGE-1 epitope.
XX
KW Cytotoxic T cell; T lymphocyte; CD8+ epitope; T helper cell;
KW CD4+ epitope; B epitope; lipopeptide; interferon gamma; adjuvant;
KW vaccine; tumor; infection; immune response; cytokine profile;
KW acquired immune deficiency syndrome; papilloma; cancer; hepatitis;
KW autoimmune disease.
XX
OS Homo sapiens.
XX
PN FR2774687-A1.
XX
PD 13-AUG-1999.
XX
PF 06-FEB-1998; 98FR-00001439.
XX
PR 06-FEB-1998; 98FR-00001439.
XX
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE.
PA (INSP) INST PASTEUR LILLE.
XX
PI Thiam K, Guillet JG, Ver Waerde C, Auriault C, Gras MH, Loing E;
XX
DR WPI; 1999-510734/43.
XX
PT New lipopeptide comprising C-terminal interferon-gamma fragment with
PT attached lipophilic groups, used as interferon mimic, e.g. for treating
PT cancer or virus infection.
XX
PS Disclosure; Page 37; 53pp; French.
XX
CC AAY40123-Y40379 represent epitopes that are able to activate cytotoxic T
CC lymphocytes (CD8+ epitopes), T helper cells (CD4+ epitopes), or B
CC epitopes recognized by corresponding antibodies. The epitopes may be used
CC in the composition of the invention. The specification describes a
CC lipopeptide that has a peptide part derived from mammalian interferon
CC gamma (IFNg) and one or more lipophilic parts comprising a linear or
CC branched, (un)saturated 4-20C hydrocarbyl chain or a steroid. The
CC lipopeptide mimics the activity of IFNg. Compositions comprising the
CC lipopeptide are used to treat or prevent any condition that responds to
CC IFNg, and as adjuvant for vaccines (particularly those directed against
CC tumors, viral or parasitic infections), to stimulate or (re)orient the
CC immune response between types 1 and 2 cytokine profiles. Particular
CC applications are treatment of infections (particularly viral, e.g.
CC acquired immune deficiency syndrome, papilloma (cancer) and hepatitis,
CC but also bacterial, fungal, parasitic or helminth); cancers (particularly
CC of kidney, cutaneous T cells or ovary, chronic myelogenous leukemia or
CC mesothelioma), allergy; and autoimmune diseases
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 29
AAY45884
ID AAY45884 standard; peptide; 9 AA.
XX
AC AAY45884;
XX
DT 01-DEC-1999 (first entry)
XX
DE Immunogenic peptide having a human leukocyte antigen binding motif #495.
XX
KW Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
KW immune response; T cell activation; major histocompatibility complex;
KW cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
KW prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
KW vaccine; immunisation.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9945954-A1.
XX
PD 16-SEP-1999.
XX
PF 13-MAR-1998; 98WO-US005039.
XX
PR 13-MAR-1998; 98WO-US005039.
XX
PA (EPIM-) EPIMMUNE INC.
XX

PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
XX
DR WPI; 1999-551214/46.
XX
PT New immunogenic peptides with HLA binding motif, useful in treatment and
PT diagnosis of cancers and viral diseases.
XX
PS Claim 1; Page 46; 150pp; English.
XX
CC AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
CC having a human major histocompatibility complex (MHC) Class I (also known
CC as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
CC can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
CC or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
CC the antigen from which the peptide is derived. Cytotoxic T lymphocytes
CC (CTLs) which destroy antigen-bearing cells are normally induced by an
CC antigen in the form of a peptide fragment bound to a HLA molecule, rather
CC than the intact foreign antigen itself, and are particularly important in
CC tumour rejection and in fighting viral infections. The peptides are
CC therefore useful therapeutically to treat or prevent viral infections and
CC cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
CC and C, AIDS, and renal carcinoma. They can be administered as vaccines to
CC elicit an immune response in individuals susceptible or otherwise at risk
CC of viral infection or cancer, or used to treat chronic or acute
CC conditions. They are also useful diagnostically, and can be used to
CC induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
CC the peptide e.g. to produce CTLs ex vivo for infusion back into a
CC patient. The polynucleotides encoding the immunogenic peptides are also
CC useful therapeutically and for immunisation as above
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 30
AAY46334
ID AAY46334 standard; peptide; 9 AA.
XX
AC AAY46334;
XX
DT 01-DEC-1999 (first entry)
XX
DE Immunogenic peptide having a human leukocyte antigen binding motif #945.
XX
KW Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
KW immune response; T cell activation; major histocompatibility complex;
KW cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
KW prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
KW vaccine; immunisation.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9945954-A1.
XX
PD 16-SEP-1999.
XX
PF 13-MAR-1998; 98WO-US005039.
XX
PR 13-MAR-1998; 98WO-US005039.
XX
PA (EPIM-) EPIMMUNE INC.
XX
PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
XX
DR WPI; 1999-551214/46.
XX
PT New immunogenic peptides with HLA binding motif, useful in treatment and
PT diagnosis of cancers and viral diseases.
XX
PS Claim 1; Page 67; 150pp; English.
XX
CC AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
CC having a human major histocompatibility complex (MHC) Class I (also known
CC as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
CC can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
CC or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
CC the antigen from which the peptide is derived. Cytotoxic T lymphocytes
CC (CTLs) which destroy antigen-bearing cells are normally induced by an
CC antigen in the form of a peptide fragment bound to a HLA molecule, rather
CC than the intact foreign antigen itself, and are particularly important in
CC tumour rejection and in fighting viral infections. The peptides are
CC therefore useful therapeutically to treat or prevent viral infections and
CC cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
CC and C, AIDS, and renal carcinoma. They can be administered as vaccines to
CC elicit an immune response in individuals susceptible or otherwise at risk
CC of viral infection or cancer, or used to treat chronic or acute
CC conditions. They are also useful diagnostically, and can be used to
CC induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
CC the peptide e.g. to produce CTLs ex vivo for infusion back into a
CC patient. The polynucleotides encoding the immunogenic peptides are also
CC useful therapeutically and for immunisation as above
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 31
AAY33147
ID AAY33147 standard; peptide; 9 AA.
XX
AC AAY33147;
XX
DT 17-NOV-1999 (first entry)
XX
DE Human MAGE-1 peptide.
XX
KW Human; protein delivery; Yersinia sp; effector gene; mutant; antigen;
KW immune response; cytotoxic T-lymphocyte; CTL; vaccination; treatment;
KW pathological disorder; MAGE-1.
XX
OS Homo sapiens.
XX
PN WO9945098-A2.
XX
PD 10-SEP-1999.
XX
PF 03-MAR-1999; 99WO-IB000587.
XX
PR 06-MAR-1998; 98US-00036582.
XX
PA (VBRU/) VAN DER BRUGGEN P B.
PA (CORN/) CORNELIS G R.
PA (BOLA/) BOLAND A M.
PA (BOON/) BOON-FALLEUR T R.
XX
PI Van Der Bruggen PB, Cornelis GR, Boland AM, Boon-Falleur TR;
XX
DR WPI; 1999-540840/45.
XX
PT New mutant Yersinia strains useful for treating a pathological disorder.
XX

PS Example 1; Page 61; 80pp; English.
XX
CC This invention describes a novel mutant Yersinia (Y1) strain, comprising
CC mutation(s) in effector-encoding gene(s) and deficient in the production
CC of functional effector protein(s). The invention describes (1) a
CC quintuple mutant Yersinia strain, having the designation Yersinia
CC enterocolitica yopEHOMP or Yersinia pseudotuberculosis yopEHAOJ; (2) an
CC expression vector (EV1) for delivering a heterologous protein into a
CC eukaryotic cell, comprising in the 5'-3' direction; (3) a Yersinia or
CC mutant Yersinia strain for delivering a heterologous protein into a
CC eukaryotic cell, comprising contacting the cell with a Y1 transformed
CC with the above vector (Y1-EV1); (4) a method for delivering a
CC heterologous protein into a eukaryotic cell, comprising contacting the
CC cell with a Y1 transformed with the above vector (Y1-EV1); (5) a method
CC for inducing an immune response specific for a heterologous protein; (6)
CC a method for inducing a cytotoxic T-lymphocyte (CTL) response specific
CC for a heterologous protein; (7) a method for determining the efficacy of
CC an antigen vaccination regimen in a subject. Y1 is used to treat a
CC pathological disorder, by providing recombinant Yersinia for the safe
CC delivery of proteins into eukaryotic cells. AAY33147-Y33178 are human-
CC derived peptides used to illustrate the method of the invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 32
AAY25177
ID AAY25177 standard; peptide; 9 AA.
XX
AC AAY25177;
XX
DT 03-SEP-1999 (first entry)
XX
DE MAGE-1 peptide.
XX
KW Heat shock protein; HSP; complex; denatured protein matrix; antigen;
KW vaccine; allergic disease; treatment; susceptibility; Th2; skin rash;
KW allergic reaction; asthma; MAGE-1.
XX
OS Unidentified.
XX
PN WO9929182-A1.
XX
PD 17-JUN-1999.
XX
PF 04-DEC-1998; 98WO-US025734.
XX
PR 05-DEC-1997; 97US-00985548.
PR 05-DEC-1997; 97US-00986234.
XX
PA (UYNE-) UNIV NEW MEXICO STATE.
XX
PI Wallen ES, Moseley PL;
XX
DR WPI; 1999-394912/33.
XX
PT Synthesizing heat shock protein complexes using a denatured protein
PT matrix.
XX
PS Example 1; Fig 1A; 33pp; English.
XX
CC This invention describes a novel method for synthesizing heat shock
CC protein (HSP) complexes comprises adding a heat shock protein to a
CC denatured protein matrix for binding, and adding a complexing solution
CC comprising a peptide to elute a heat shock protein-peptide complex. A HSP
CC -antigen complex is useful as a vaccine for treating an allergic disease
CC (in a mammal, preferably a human) to reduce susceptibility of the Th2
CC response, the complex comprising a HSP-antigenic peptide complex. The
CC complex is administered to prevent a mammal from having an allergic
CC reaction to an allergic disease, or administered to a mammal having an
CC allergic disease, to reduce the allergic reactions. Allergic diseases
CC include asthma and skin rashes. Prior art methods or preventing/treating
CC allergic diseases include antihistamines which treat only the symptoms,
CC corticosteroids which have severe side effects and desensitization
CC therapy which has limited uses. The new method also allows more
CC flexibility of use of peptide-based vaccines, as prior art HSP-based
CC vaccines require isolation from a portion of the tumour itself. This
CC sequence represents a MAGE 1 peptide fragment used in the method of the
CC invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 33
AAY23250
ID AAY23250 standard; peptide; 9 AA.
XX
AC AAY23250;
XX
DT 31-AUG-1999 (first entry)
XX
DE Peptide derived from MAGE-1 which is recognised by cytotoxic T cells.
XX
KW Venezuelan equine encephalitis virus; VEE virus; neoplastic disease;
KW tumour-associated antigen; cytokine; immunity; cancer; tumour; MAGE-1.
XX
OS Homo sapiens.
XX
PN WO9930734-A1.
XX
PD 24-JUN-1999.
XX
PF 14-DEC-1998; 98WO-US025725.
XX
PR 18-DEC-1997; 97US-0068080P.
XX
PA (SEAR) SEARLE & CO G D.
XX
PI Hippenmeyer PJ;
XX
DR WPI; 1999-395093/33.
XX
PT Using new Venezuelan equine encephalitis virus vectors.
XX
PS Claim 4; Page 24; 40pp; English.
XX
CC The specification describes venezuelan equine encephalitis (VEE) virus
CC vectors which can be used to express tumour-associated antigens and
CC cytokines, and thus induce immunity to cancer. The VEE virus vectors of
CC the invention can be used prevent, treat, and protect against primary and
CC metastatic neoplastic diseases, especially tumours such as lung cancer,
CC breast cancer, ovarian cancer, prostate cancer, pancreatic cancer,
CC gastric cancer, colon cancer, renal cancer, bladder cancer, melanoma,
CC hepatoma, sarcoma and lymphoma. The present sequence represents a MAGE-1
CC derived peptide, which can be expressed using the VEE vectors of the
CC invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;

Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

RESULT 34
AAY53541
ID AAY53541 standard; protein; 9 AA.
XX
AC AAY53541;
XX
DT 18-JAN-2000 (first entry)
XX
DE Human MAGE-1 protein (aa 161-169) binds HLA-A1.
XX
KW Lipopeptide; epitope; cytotoxic T lymphocyte; CTL; lipid; spacer; p53;
KW electrical charge; hydrophilicity; vaccine; immune response; HIV; HBV;
KW human immunodeficiency virus; hepatitis B virus; papilloma virus;
KW melanoma; malaria; parasite.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN FR2776926-A1.
XX
PD 08-OCT-1999.
XX
PF 07-APR-1998; 98FR-00004323.
XX
PR 07-APR-1998; 98FR-00004323.
XX
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE.
PA (CNRS) CNRS CENT NAT RECH SCI.
PA (INSP) INST PASTEUR LILLE.
XX
PI Le Gal FA, Guillet JG, Gahery SH, Gras MH, Melnyk O, Tartar A;
XX
DR WPI; 1999-583113/50.
XX
PT New lipopeptide containing lipid regions and two epitopes, all separated
PT by peptide spacers that impart hydrophilicity, useful in vaccines.
XX
PS Disclosure; Page 26; 35pp; French.
XX
CC The invention relates to the generation of a lipopeptide comprising at
CC least one auxiliary T epitope, at least one cytotoxic T lymphocyte (CTL)
CC epitope and at least one lipid residue with (i) the epitopes and lipid
CC portion and (ii) the epitopes, being separated independently by peptide
CC spacers. These spacers comprise sequences of amino acids which carry an
CC overall electrical charge in neutral media to ensure that the lipopeptide
CC is hydrophilic. The peptides AAY53301-Y53549 represents examples of
CC peptide epitopes used to generate the lipopeptides. These are used in
CC therapeutic or prophylactic compositions and vaccines to induce specific
CC immune responses against human immunodeficiency, hepatitis B or papilloma
CC viruses; p53 of melanoma or the malaria parasite
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

RESULT 35
AAY26884
ID AAY26884 standard; peptide; 9 AA.
XX
AC AAY26884;
XX
DT 14-SEP-1999 (first entry)
XX
DE Tumour-derived lipopeptide epitope #1 for mixed micelles.
XX
KW Micelle; microaggregate; induction; immune response; lipopeptide; CTL;
KW cytotoxic T-lymphocyte; epitope; lipid; helper T-lymphocyte; HTL; HBV;
KW tetanus; toxin; vaccine; HIV; hepatitis B virus; papilloma virus; p53;
KW melanoma; Plasmodium falciparum; malaria.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN FR2771640-A1.
XX
PD 04-JUN-1999.
XX
PF 03-DEC-1997; 97FR-00015246.
XX
PR 03-DEC-1997; 97FR-00015246.
XX
PA (INRM) INSERM INST NAT SANTE & RECH MEDICALE.
PA (CNRS) CNRS CENT NAT RECH SCI.
PA (INSP) INST PASTEUR LILLE.
XX
PI Gras MH, Bossus M, Lippens G, Wieruszeski JM, Tartar A;
PI Guillet JG, Bourgault VI;
XX
DR WPI; 1999-349509/30.
XX
PT Immunogenic lipopeptide micelles - comprising lipopeptides containing
PT cytotoxic and helper T-lymphocyte epitopes.
XX
PS Disclosure; Page 39; 60pp; French.
XX
CC The invention relates to the generation of mixed micelles or
CC microaggregates for inducing an immune response comprise: (a) a first
CC lipopeptide comprising at least one CTL (cytotoxic T-lymphocyte) epitope
CC and at least one lipid unit; and (b) a second lipopeptide comprising at
CC least one HTL (helper T-lymphocyte) epitope and at least one lipid unit
CC different from that of the first lipopeptide. This peptide represents an
CC example of a lipopeptide epitope used in the invention and is derived
CC from various tumour proteins. The immunogenic lipopeptide micelles are
CC used in vaccines, especially against HIV, hepatitis B virus (HBV),
CC papilloma viruses, p53, melanoma or Plasmodium falciparum malaria
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

RESULT 36
AAY22126
ID AAY22126 standard; peptide; 9 AA.
XX
AC AAY22126;
XX
DT 08-SEP-1999 (first entry)
XX
DE Tumour rejection antigen.
XX
KW Tumour rejection antigen; vaccine; cancer.
XX
OS Synthetic.
XX

PN US5925729-A.
XX
PD 20-JUL-1999.
XX
PF 02-MAY-1994; 94US-00142368.
XX
PR 23-MAY-1991; 91US-00705702.
PR 09-JUL-1991; 91US-00728838.
PR 23-SEP-1991; 91US-00764365.
PR 12-DEC-1991; 91US-00807043.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Van Der Bruggen P, Traversari C, Lurquin C, Boon T, De Plaen E;
PI Van Pel A, Chomez P, Van Den Eynde B;
XX
DR WPI; 1999-418294/35.
XX
PT New tumour rejection antigen is useful as a vaccine against cancerous
PT diseases.
XX
PS Claim 1; Col 85; 58pp; English.
XX
CC This sequence represents the tumour rejection antigen of the invention.
CC The tumour rejection antigen sequence is useful as a tumour rejection
CC antigen for vaccination against cancerous conditions
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 37
AAY00685
ID AAY00685 standard; peptide; 9 AA.
XX
AC AAY00685;
XX
DT 12-MAY-1999 (first entry)
XX
DE Tumour antigen booster peptide MAGE-1 HLA-A1.
XX
KW Tumour antigen; booster peptide; immune response modulation; allergy;
KW immune response enhancer; tumour cell; tumour rejection antigen;
KW leukocyte antigen-presenting molecule; autoimmune disease;
KW allograft rejection.
XX
OS Homo sapiens.
XX
PN WO9858956-A2.
XX
PD 30-DEC-1998.
XX
PF 19-JUN-1998; 98WO-US012894.
XX
PR 23-JUN-1997; 97US-00880979.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Warnier G, Uyttenhove C, Boon-Falleur T;
XX
DR WPI; 1999-105612/09.
XX
PT Immunization methods using viruses expressing antigen for priming and
PT booster immunizations - useful for modulating immune responses against
PT antigen, e.g. enhancing immune response against tumour cells expressing
PT tumour rejection antigens.
XX
PS Claim 3; Page 9; 33pp; English.
XX
CC This sequence represents a tumour antigen booster peptide that can be
CC used in the method of the invention. The method is for for modulating an
CC immune response in a mammal against an antigen, and comprises: (A)
CC inducing an immune response by: (i) administering a virus containing a
CC nucleic acid molecule encoding the antigen or its precursor to generate
CC an immune response; and (ii) administering at least one booster dose
CC comprising a peptide including the antigen, in an adjuvant, in a combined
CC amount effective to enhance the initial immune response; or (B) reducing
CC an immune response as defined for (A) but using a non-adjuvant with the
CC peptide which includes the antigen, in an amount effective to reduce the
CC initial immune response. Method (A) is used to enhance the immune
CC response against tumour cells expressing tumour rejection antigens, and
CC against pathogens in subjects having human leukocyte antigen-presenting
CC molecules. Method (B) is used to reduce the immune response in allergy,
CC autoimmune disease, and allograft rejection. Method (A) provides an
CC immunisation method which, unlike prior art, is not limited by the host
CC immune response against viral vectors
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 2; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 38
AAY49637
ID AAY49637 standard; peptide; 9 AA.
XX
AC AAY49637;
XX
DT 14-JAN-2000 (first entry)
XX
DE Tumour antigenic peptide SEQ ID NO:4.
XX
KW Human; sdph3.10; SAGE; sdp3.8; HAGE; sdp3.5; TRAP; sarcoma;
KW tumour rejection antigen precursor; tumour associated nucleic acid;
KW carcinoma; cancer; immune response; diagnosis.
XX
OS Synthetic.
XX
PN WO9953061-A2.
XX
PD 21-OCT-1999.
XX
PF 14-APR-1999; 99WO-US008163.
XX
PR 15-APR-1998; 98US-00060706.
PR 27-JUL-1998; 98US-00122989.
PR 30-OCT-1998; 98US-00183706.
PR 30-OCT-1998; 98US-00183789.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Martelange V, De Smet C, Boon-Falleur T;
XX
DR WPI; 1999-620430/53.
XX
PT New nucleic acid encoding sarcoma-associated gene products, useful for
PT diagnosing, e.g. treating and preventing cancer.
XX
PS Disclosure; Page 24; 93pp; English.
XX
CC The present invention describes sarcoma-associated gene products (I).
CC Agents, specifically sarcoma associated nucleic acids (II) or their
CC expression products that are tumour rejection antigens (TRA), that

```
CC   selectively increase formation of HLA (human leucocyte antigen)/(I)
CC   complexes are used for treating cancer, especially sarcoma and carcinoma,
CC   in humans and other animals. Compositions containing autologous cytolytic
CC   T cells (CTL), specific for the HLA/(I) complex, are similarly useful,
CC   also transformed cells that stimulate such CTL in vivo. (II) are also
CC   used: (i) as source of therapeutic antisense sequences that reduce
CC   expression of (II); (ii) for recombinant production of (I); (iii)
CC   particularly its fragments, as primers and probes in usual hybridisation
CC   and amplification assays, for diagnosis, prognosis and monitoring of
CC   tumours, or for measuring binding specificity of HLA molecules or CTL
CC   clones; (iv) to identify related sequences; and (v) for generating
CC   transgenic animals, e.g. for studying cancer and immune responses to it.
CC   (I) are used to raise specific antibodies (Ab) and therapeutically. Ab
CC   are used to diagnose tumours in immunoassays, also for delivering drugs,
CC   toxins, imaging agents etc. to (I)-expressing cells. AAY49637 to AAY49670
CC   represent exemplary tumour antigenic peptides given in the present
CC   invention
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 2;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 39
AAY01727
ID   AAY01727 standard; péptide; 9 AA.
XX
AC   AAY01727;
XX
DT   25-JUN-1999  (first entry)
XX
DE   Exemplary antigenic peptide derived from MAGE-1.
XX
KW   MAGE-3; tumour associated gene; human leucocyte antigen Class II;
KW   autologous CD4+ cell; MAGE-3 related disease; cancer; melanoma;
KW   osteosarcoma; leukemia; carcinoma.
XX
OS   Homo sapiens.
XX
PN   WO9914326-A1.
XX
PD   25-MAR-1999.
XX
PF   04-SEP-1998;   98WO-US018601.
XX
PR   12-SEP-1997;   97US-00928615.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
PA   (UYVR-) UNIV VRIJE BRUSSEL.
XX
PI   Thielemans K,  Heirman C,  Corthals J,  Chaux P,  Stroobant V;
PI   Boon-Falleur T,  Van Der Bruggen P,  Luiten R;
XX
DR   WPI; 1999-244031/20.
XX
PT   Isolated peptides that bind to human leucocyte antigen class II
PT   molecules.
XX
PS   Disclosure; Page 27; 88pp; English.
XX
CC   The present sequence represents an exemplary tumour associated peptide
CC   antigen. The specification describes a MAGE-3 tumour associated gene.
CC   Peptides (AAY01721-25) that bind human leucocyte antigen (HLA) Class II
CC   molecules can be derived from the MAGE-3 protein. These peptides and
CC   autologous CD4+ cells that bind to a complex of MAGE-3 peptide and HLA
CC   Class II, are used to treat MAGE-3 related diseases, particularly cancers
CC   (e.g. melanoma, osteosarcoma, leukemia and various forms of carcinoma).
CC   The peptides are also used to produce specific antibodies. Detection of
CC   of the peptides, e.g. in binding assays, particularly with antibodies, is
CC   used for diagnosis of such diseases
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 2;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 40
AAY71494
ID   AAY71494 standard; peptide; 9 AA.
XX
AC   AAY71494;
XX
DT   12-OCT-2000  (first entry)
XX
DE   Human MAGE-1 nonapeptide-1.
XX
KW   MAGE-1; human; Tumour Rejection Antigen; TRA; Human Leucocyte Antigen;
KW   HLA; Major Histocompatibility Complex; MHC; cytolytic T-lymphocyte; CTL;
KW   immune response stimulator; prophylaxis; therapy; diagnosis; tumour;
KW   cancer; TNF; tumour necrosis factor; vaccine; cytostatic.
XX
OS   Homo sapiens.
XX
PN   WO200032769-A2.
XX
PD   08-JUN-2000.
XX
PF   26-NOV-1999;   99WO-IB002018.
XX
PR   27-NOV-1998;   98GB-00026143.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Huang L,  Van Pel A,  Brasseur F,  De Plaen E,  Boon T;
XX
DR   WPI; 2000-412317/35.
XX
PT   Novel polypeptides expressed in tumor cells useful for treating cancers
PT   have an ability to complex with a major histocompatibility complex
PT   molecule and comprises a specific unbroken amino acid sequence.
XX
PS   Disclosure; Page 19; 80pp; English.
XX
CC   The patent discloses MAGE-A10 and MAGE-A8 polypeptide, nonapeptide and
CC   decapeptide sequences, that function as tumour rejection antigens (TRAs).
CC   These peptides are capable of forming a complex with major
CC   histocompatibility complex (MHC) molecule type HLA-A2.1 (Human Leucocyte
CC   Antigen), that are recognised by T-lymphocytes and elicit an immune
CC   response from cytolytic T-lymphocytes (CTL). They function as an immune
CC   response stimulator. Tumour rejection antigens are useful in prophylaxis,
CC   therapy and diagnosis of tumours and are effective in controlling or
CC   preventing tumour growth. The present sequence is the human MAGE-1
CC   nonapeptide-1, that corresponds to residues 161-169 of the tumour
CC   associated gene, MAGE-1 encoding protein. It can be administered to
CC   induce or enhance an immune response and is presented by HLA-A1 complex.
CC   This peptide can serve as a tumour rejection antigen (TRA) and in
CC   combination with adjuvants, can produce vaccines useful for treating a
CC   variety of tumours
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 3;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
```

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 41
AAY90778
ID   AAY90778 standard; peptide; 9 AA.
XX
AC   AAY90778;
XX
DT   25-AUG-2000  (first entry)
XX
DE   Human leukocyte antigen A1 MAGE-1 peptide SEQ ID NO:7.
XX
KW   Human leukocyte antigen; HLA-B35; binding; recognition; lysis;
KW   cytolytic T cell; tyrosinase; immune response; diagnosis; identification;
KW   human.
XX
OS   Homo sapiens.
XX
PN   WO200021551-A1.
XX
PD   20-APR-2000.
XX
PF   04-OCT-1999;   99WO-US023038.
XX
PR   09-OCT-1998;   98US-00169717.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Ooms A,  De Giovanni G,  Morel S,  Van Den Eynde B,  Boon-Falleur T;
XX
DR   WPI; 2000-317842/27.
XX
PT   Isolated peptides, sometimes derived from tyrosinase, which bind to HLA-
PT   B35 leading to recognition and lysis of the resulting complexes by
PT   cytolytic T cells.
XX
PS   Example 3; Page 9; 20pp; English.
XX
CC   The present invention describes isolated peptides which bind to human
CC   leukocyte antigen (HLA)-B35 molecules leading to recognition and lysis of
CC   the resulting complexes by cytolytic T cells. The isolated peptides are
CC   sometimes derived from tyrosinase. Compositions comprising the peptides
CC   of the invention can be used to generate immune responses, preferably in
CC   humans, but also in non-human animals to generated immune components
CC   which can then be used to treat humans or diagnostically.
CC   Therapeutically, the peptides are useful in generation of cytolytic T
CC   cells either in vitro or in vivo which specifically lyse pathogenic
CC   cells. The peptides can also be used to identify HLA-B35 positive cells,
CC   or to remove HLA-B25 positive cells from mixtures containing such cells.
CC   Nucleic acid molecules encoding the peptides can be used inter alia as
CC   probes to identify cells which are expressing tyrosinase. The present
CC   sequence represents an HLA binding peptide used in the exemplification of
CC   the present invention
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 3;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 42
AAB13741
ID   AAB13741 standard; peptide; 9 AA.
XX
AC   AAB13741;
XX
DT   02-FEB-2001  (first entry)
XX
DE   Peptide fragment # 1 from human MAGE-1.
XX
KW   Human; T-cell; immune response; antigen; epitope; B7 family molecule;
KW   Leukocyte function-associated antigen-3; LFA-3;
KW   Intercellular adhesion molecule-1; ICAM-1; vaccine; immunotherapy;
KW   colon polyp; Crohn's disease; ulcerative colitis; breast lesion; tumour;
KW   MAGE-1.
XX
OS   Homo sapiens.
XX
PN   WO200034494-A1.
XX
PD   15-JUN-2000.
XX
PF   12-NOV-1999;   99WO-US026866.
XX
PR   09-DEC-1998;   98US-0111582P.
XX
PA   (USSH ) US DEPT HEALTH & HUMAN SERVICES.
PA   (THER-) THERION BIOLOGICS CORP.
XX
PI   Schlom J,  Hodge J,  Panicali D;
XX
DR   WPI; 2000-431307/37.
XX
PT   Novel recombinant vector useful as immunogens and vaccines for
PT   stimulating and enhancing immunological responses to target cells and
PT   antigens expresses multiple co-stimulatory molecules such as B7-1, LFA-3,
PT   ICAM-1.
XX
PS   Claim 18; Page 35; 188pp; English.
XX
CC   Costimulatory molecules have important roles in T-cell activation and
CC   therefore the immune response. The present invention relates to
CC   recombinant vectors which comprise of foreign nucleic acid sequences
CC   encoding at least three costimulatory molecules: a B7 family molecule,
CC   Leukocyte function-associated antigen-3 (LFA-3, human CD58) and
CC   Intercellular adhesion molecule-1 (ICAM-1, CD54) and optionally a foreign
CC   gene encoding a target antigen or immunological epitope. The present
CC   sequence is one such target antigen used in the present invention. The
CC   present sequence is a tumour-associated antigen. The vector of the
CC   present invention would be useful for providing an enhanced immune
CC   response to the present target antigen. The vector of the present
CC   invention may therefore be useful in immunotherapy for treating or
CC   preventing diseases caused by viruses, bacteria, protozoans, parasites,
CC   premalignant cells and tumour cells. The recombinant vector can be used
CC   to treat or prevent preneoplastic or hyperplastic states such as colon
CC   polyps, Crohn's disease; ulcerative colitis and breast lesions
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 3;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 43
AAY96509
ID   AAY96509 standard; peptide; 9 AA.
XX
AC   AAY96509;
XX
DT   12-SEP-2000  (first entry)
XX
DE   MAGE-1 nonapeptide.
```

XX
KW human leukocyte antigen; HLA-A1; melanoma; neoplastic; MAGE-1; TCR; MHC;
KW soluble; major histocompatability complex; antigen; T cell receptor;
KW lymphocyte; tumour; cytostatic; anti-microbial; immunosuppressive.
XX
OS Homo sapiens.
XX
PN WO200031239-A1.
XX
PD 02-JUN-2000.
XX
PF 18-NOV-1999; 99WO-IL000622.
XX
PR 19-NOV-1998; 98IL-00127142.
XX
PA (YEDA) YEDA RES & DEV CO LTD.
PA (BOLH/) BOLHUIS R L H.
XX
PI Bolhuis RLH, Eshhar Z, Willemsen RA;
XX
DR WPI; 2000-451678/39.
XX
PT Immune cells with predefined specificities useful for treating melanoma
PT and immune diseases.
XX
PS Example 6; Page 18; 51pp; English.
XX
CC The human leukocyte antigen (HLA)-A1 binding melanoma-associated
CC neoplastic protein (MAGE-1) peptide and an irrelevant HLA-A1 binding
CC peptide derived from Influenza virus A nucleoprotein (see AAY96510) were
CC used to construct soluble peptide-major histocompatability complex (MHC)
CC complexes for identification of antigen-specific T cell receptor (TCR) on
CC gene transduced T lymphocytes. Novel immune cells with predefined
CC specificity, are produced by either complexing the cells with an antigen-
CC specific MHC-restricted TCR or transfecting the cells with an antigen
CC specific MHC-restricted chimeric TCR gene. The antigen-specific MHC-
CC restricted TCR can be complexed with lymphocytic cells for treatment of a
CC tumour. Alternatively, the autologous lymphocytes can be transfected with
CC an antigen-specific MHC-restricted chimeric TCR gene encoding a single
CC chain TCR (scFv-TCR) which binds to an antigen associated with the tumour
CC and a segment encoding a signal transducing element of an immune cell.
CC Compositions comprising the immune cells may be used for the treatment of
CC cancer (especially melanomas, if the TCR binds to the MAGE-1 antigen),
CC infectious diseases, autoimmune disease and/or graft rejection
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 44
AAB33650
ID AAB33650 standard; peptide; 9 AA.
XX
AC AAB33650;
XX
DT 26-JAN-2001 (first entry)
XX
DE MHC class I associated immunogenic peptide SEQ ID 49.
XX
KW Microparticle; nucleic acid delivery; immunogenic peptide; MHC I; MHC II;
KW major histocompatibility complex; vaginal tissue; mucosal tissue.
XX
OS Unidentified.
XX
PN WO200053161-A2.
XX
PD 14-SEP-2000.
XX
PF 10-MAR-2000; 2000WO-US006578.
XX
PR 11-MAR-1999; 99US-00266463.
PR 27-MAY-1999; 99US-00321346.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Lunsford LB, Putnam D, Hedley ML;
XX
DR WPI; 2000-638130/61.
XX
PT Microparticles useful for administering a nucleic acid into the mucosal
PT tissue preferably vaginal tissue of an animal, comprises a polymeric
PT matrix, a lipid and a nucleic acid molecule.
XX
PS Disclosure; Page 13; 96pp; English.
XX
CC The present invention relates to microparticles which are less than 20
CC microns in diameter, which comprise a polymeric matrix, a lipid and a
CC nucleic acid molecule. The microparticle is specifically not encapsulated
CC in a liposome and does not comprise a cell. The nucleotide sequence
CC encodes an expression product that binds to major histocompatibility
CC complex (MHC) type I or II molecules. Peptides AAB33602-B33647 represent
CC MHC class II associated immunogenic peptides, and AAB33648-B33710
CC represent MHC class I associated immunogenic peptides. The peptides are
CC examples of the expression products of the nucleotide sequences which can
CC be included in the microparticles of the invention. Sequences AAB33711-
CC B33716 represent alternative expression products and nuclear localisation
CC signals also used in the invention. The microparticles are useful for
CC administering a nucleic acid into the mucosal tissue preferably vaginal
CC tissue of an animal
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 45
AAB23659
ID AAB23659 standard; peptide; 9 AA.
XX
AC AAB23659;
XX
DT 05-JAN-2001 (first entry)
XX
DE Cytotoxic T lymphocyte (CTL) epitope SEQ ID NO:11.
XX
KW ATPase; Hsp70; heat shock protein; cytotoxic T lymphocyte; CTL;
KW immune response; infectious disease; malaria; cytotoxic T cell;
KW cytostatic; immunostimulant; cellular immune response inducer;
KW protozoacide; leukaemia; cancer.
XX
OS Homo sapiens.
XX
PN WO200049041-A1.
XX
PD 24-AUG-2000.
XX
PF 18-FEB-2000; 2000WO-JP000941.
XX
PR 19-FEB-1999; 99JP-00041535.
XX
PA (SUME) SUMITOMO ELECTRIC IND CO.
XX
PI Shinbara N, Udono H, Yui K;

XX
DR WPI; 2000-543748/49.
XX
PT Fused protein capable of inducing cellular immune response, useful as
PT active ingredient for drug compositions in preventing and/or treating
PT infectious diseases such as malaria or cancer.
XX
PS Claim 7; Page 53; 72pp; Japanese.
XX
CC The present invention describes a fused protein (I) prepared from a
CC peptide containing a CTL (cytotoxic T lymphocyte) epitope recognised by
CC cytotoxic T cells and a protein containing the ATPase domain of a heat
CC shock protein. Also described are: (1) a drug composition containing (I)
CC as active ingredient; (2) a DNA encoding (I); (3) an expression vector
CC containing the DNA of (2); and (4) a transformant which can retain the
CC expression vector of (3). (I) has cytostatic, immunostimulant and
CC protozoacide activities, and can be used as a cellular immune response
CC inducer. The protein is useful as an active ingredient for drug
CC compositions in preventing and/or treating infectious diseases such as
CC malaria or cancer e.g. to provide systemic immunity against leukaemia.
CC The present sequence represents a specifically claimed CTL epitope for
CC use in a fused protein of the present invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 46
AAY92275
ID AAY92275 standard; peptide; 9 AA.
XX
AC AAY92275;
XX
DT 10-AUG-2000 (first entry)
XX
DE MAGE-A1 antigenic peptide epitope (residues 161-169).
XX
KW MAGE-A1; antigen; epitope; cytotoxic T lymphocyte; CTL; complex; HLA;
KW human leukocyte antigen.
XX
OS Homo sapiens.
XX
PN WO200020445-A2.
XX
PD 13-APR-2000.
XX
PF 15-SEP-1999; 99WO-IB001664.
XX
PR 02-OCT-1998; 98US-00165863.
PR 09-APR-1999; 99US-00289350.
XX
PA (CHAU/) CHAUX P.
PA (LUIT/) LUITEN R.
PA (DEMO/) DEMOTTE N.
PA (DUFF/) DUFFOUR M.
PA (LURQ/) LURQUIN C.
PA (TRAV/) TRAVERSARI C.
PA (STRO/) STROOBANT V.
PA (CORN/) CORNELIS G R.
PA (BOON/) BOON-FALLEUR T.
PA (VBRU/) VAN DER BRUGGEN P.
PA (SCHU/) SCHULTZ E.
PA (WARN/) WARNIER G.
XX
PI Chaux P, Luiten R, Demotte N, Duffour M, Lurquin C, Traversari C;
PI Stroobant V, Cornelis GR, Boon-Falleur T, Van Der Bruggen P;
PI Schultz E, Warnier G;
XX
DR WPI; 2000-303739/26.
XX
PT Isolation of cytotoxic T-lymphocytes clones by successive steps of
PT stimulation and testing of lymphocytes with antigen presenting cells
PT which present antigens derived from different expression systems.
XX
PS Disclosure; Page 21; 99pp; English.
XX
CC A novel method of isolation of cytotoxic T-lymphocytes (CTL) clones
CC comprises successive steps of stimulation and testing of lymphocytes with
CC antigen presenting cells (APCs) which present antigens derived from
CC different expression systems. The CTL clones isolated recognize specific
CC antigenic peptides of proteins, preferably of the MAGE family. The APC is
CC autologous and each expression systems is different from at least one of
CC the other expression systems, therefore isolating a cytotoxic T cell
CC clone specific for the protein. The method can also be used to identify
CC an antigenic peptide epitope. Isolated CTL clones specific for a
CC peptide/human leukocyte antigen (HLA) complex are claimed. The CTL cells
CC specific for the complexes, peptides or cells which present the complexes
CC on the cell surface are useful for treating pathological conditions
CC characterized by abnormal expression of the complexes
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 47
AAY56591
ID AAY56591 standard; peptide; 9 AA.
XX
AC AAY56591;
XX
DT 21-FEB-2000 (first entry)
XX
DE MAGE-1 gene MHC molecule HLA-A1 peptide SEQ ID NO:6.
XX
KW HLA-A*0201; human leukocyte antigen; cytolytic T cell; CTL; tumour;
KW Melan-A; peripheral blood lymphocyte; PBL; immune complex; melanoma;
KW MHC molecule; beta2-microglobulin; cytotoxic T lymphocyte; vaccine;
KW immune response; cancer; tyrosinase; tumour rejection antigen;
KW major histocompatibility complex.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9950637-A2.
XX
PD 07-OCT-1999.
XX
PF 25-MAR-1999; 99WO-US006615.
XX
PR 27-MAR-1998; 98US-00049850.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
PA (UYOX-) UNIV OXFORD.
XX
PI Romero P, Dunbar R, Valmori D, Ogg G, Cerrotini J, Cerundolo V;
PI Pittet M;
XX
DR WPI; 2000-052636/04.
XX
PT New isolated complex of binding partners and immune complexes containing
PT major histocompatibilty molecules and peptide, used to isolate and detect
PT cytotoxic T cells, particularly directed against cancer.

XX
PS Example 50; Page 64; 91pp; English.
XX
CC The present invention describes an isolated complex (A) comprising: (i)
CC first and second binding partners (BP1, BP2); and (ii) several immune
CC complexes (IC) containing a major histocompatibility complex (MHC)
CC molecule (I), a beta2-microglobulin molecule (b2MG) and a peptide (II)
CC that binds specifically to (I). (A) are used for analysis of cytolytic T
CC cells (CTL) for characterisation of an immune response to tumours or for
CC monitoring vaccine trials. Particularly they are used to isolate or
CC detect particular CTL (especially those in tumour-infiltrated lymph
CC nodes), including visualisation of antigen-specific CTL and determination
CC if the cells have been activated by in vivo exposure to antigen. Isolated
CC precursor cells may be expanded in vitro to produce cells with high
CC tumouricidal activity, for therapeutic or diagnostic use. A method from
CC the present invention allows: (i) preselection of T cell clones for use
CC in immunotherapy according to their homing molecules; and (ii) improves
CC the lytic activity of T cells populations by inhibition of natural killer
CC cell receptors. The present sequence represents a peptide used in the
CC exemplification of the present invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 48
AAY84270
ID AAY84270 standard; peptide; 9 AA.
XX
AC AAY84270;
XX
DT 12-JUL-2000 (first entry)
XX
DE Tumour associated antigen derived from MAGE-A1.
XX
KW tumour rejection antigen; macrophage colony stimulating gene;
KW macrophage-colony stimulating factor; antigen presenting cell;
KW human leukocyte antigen; CD8+ cytotoxic T lymphocyte.
XX
OS Homo sapiens.
XX
PN WO200013699-A1.
XX
PD 16-MAR-2000.
XX
PF 03-SEP-1999; 99WO-US020344.
XX
PR 04-SEP-1998; 98US-0099077P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Probst-Kepper M, Van Den Eynde B, Boon-Falleur T;
XX
DR WPI; 2000-256859/22.
XX
PT Isolated polypeptide used to treat subjects having a disorder
PT characterized by expression of alternative open reading frame macrophage-
PT colony stimulating factor comprises 25 amino acid residue sequence.
XX
PS Disclosure; Page 20; 74pp; English.
XX
CC AAY84270-Y84303 represent peptides which are tumour associated antigens.
CC They can be administered in conjunctin with the tumour rejection antigen
CC precursor of the invention to induce anti-tumour reponses. The tumour
CC rejection antigen precursor of the invention is encoded by an alternative
CC open reading frame (ORF) of human macrophage colony stimulating gene.
CC Peptides derived from the alternative ORF of macrophage-colony
CC stimulating factor, when presented by an antigen presenting cell having a
CC human leukocyte antigen (HLA) class I molecule, effectively induce the
CC activation and proliferation of CD8+ cytotoxic T lymphocytes. Polypeptide
CC and nucleic acids derived from the alternate ORF of macrophage-colony
CC stimulating factor are useful for enriching selectively a population of T
CC lymphocytes with CD8+ T lymphocytes. They are also useful for diagnosing
CC a disorder characterized by expression of the polypeptide, and for
CC identifying functional variants and mimetics
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 49
AAY82953
ID AAY82953 standard; peptide; 9 AA.
XX
AC AAY82953;
XX
DT 19-JUN-2000 (first entry)
XX
DE MAGE-1 tumour associated antigen.
XX
KW Tumour; tumour associated antigen; retrovirus; antisense; treatment;
KW probe; primer; HLA; cytotoxic T-lymphocyte; cancer; testis; antibody;
KW CTL; helper T-lymphocyte; MAGE; BAGE; GAGE; RAGE; GnT-V; MUM; CDK4;
KW beta catenin; tyrosinase; Melan-A; gp100; PRAME.
XX
OS Homo sapiens.
XX
PN WO200006598-A1.
XX
PD 10-FEB-2000.
XX
PF 15-JUL-1999; 99WO-US016236.
XX
PR 29-JUL-1998; 98US-00124398.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Coulie P, Boon-Falleur T;
XX
DR WPI; 2000-205453/18.
XX
PT Novel nucleic acids encoding melanoma associated gene products and their
PT fragments and variants, useful for treating endogenous retrovirus
PT mediated tumors, especially melanomas.
XX
PS Disclosure; Page 25; 77pp; English.
XX
CC Tumor associated disorders (e.g. endogenous retrovirus mediated tumors,
CC especially melanomas) can be treated or ameliorated by administering
CC antisense nucleic acid to reduce the expression of tumour associated
CC genes such as HERV-AVL3-B. Progression of a disorder characterized by the
CC expression of the HERV-AVL3-B endogenous retrovirus tumor rejection
CC antigen (ERTRA) can be diagnosed or monitored by contacting a non-testis
CC biological sample with an agent that binds to the complex and determining
CC the interaction. A disorder can also be treated by administering an agent
CC that enriches the presence of HLA and HERV-AVL3-B ERTRA or by
CC administering autologous cytotoxic T-cells sufficient to ameliorate the
CC disorder. Fragments of the HERV-AVL3-B coding sequence are useful as
CC probes or amplification primers for determining the expression of HERV-
CC AVL3-B genes, to express tumor associated polypeptides in vivo and in
CC vitro and to prepare fragments of such polypeptides to synthesize
CC antibodies. Antigenic peptides of HERV-AVL3-B can be useful for

CC generating antibodies either alone or as fusion proteins, as components
CC of immunoassay and for determining the binding specificity of HLA
CC molecules and/or cytotoxic T lymphocyte (CTL) for HERV-AVL3-B proteins.
CC Peptides derived from the HERV-AVL3-B coding sequence and which are
CC presented by MHC molecules and recognised by CTL or helper T-lymphocytes
CC can be combined with peptides from other tumour rejection antigens by
CC preparation of hybrid nucleic acids or polypeptides to produce polytopes.
CC This exemplary tumour associated peptide antigen corresponds to amino
CC acids 161-169 of the MAGE-1 polypeptide. See also AAY82953-Y82986
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 50
AAB02596
ID AAB02596 standard; peptide; 9 AA.
XX
AC AAB02596;
XX
DT 18-AUG-2000 (first entry)
XX
DE Tumour associated peptide antigen from MAGE-A1 #1.
XX
KW MAGE-A3; HLA class II; human leukocyte antigen; antibody; vaccine;
KW cancer; human; tumour; tumour associated gene product.
XX
OS Homo sapiens.
XX
PN WO200020581-A1.
XX
PD 13-APR-2000.
XX
PF 15-SEP-1999; 99WO-US021230.
XX
PR 05-OCT-1998; 98US-00166448.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
PA (UYVR-) UNIV VRIJE BRUSSEL.
XX
PI Chaux P, Stroobant V, Boon-Falleur T, Van Der Bruggen P;
PI Schultz ES, Van Snick J, Lethe B, Thielemans K, Corthals J;
PI Heirman C;
XX
DR WPI; 2000-317713/27.
XX
PT New MAGE-A3 class II binding peptides, useful to diagnose and treat
PT tumors, are fragments of MAGE-A3 which bind to and are presented to T
PT lymphocytes by human leukocyte antigen class II molecules.
XX
PS Disclosure; Page 32; 119pp; English.
XX
CC The present invention relates to MAGE-A3 (tumour associated gene product)
CC human leukocyte antigen (HLA) class II-binding peptides (see AAB02566-
CC B02595, and AAB02633-B02637). These peptides are presented to T cells in
CC the context of HLA class II molecules. The peptides stimulate the
CC activity and proliferation of CD4+ T lymphocytes. The invention also
CC includes nucleotide sequences encoding MAGE-3A peptides (see AAA37928 and
CC AAA37938-A37940). The peptides and nucleotide sequences can be used to
CC create antibodies against the MAGE-A3 peptides, the antibodies, peptides
CC and nucleotide sequences can be used to create a vaccine. The peptides
CC are used to diagnose or treat a disorder characterized by expression of
CC MAGE-3, particularly cancer. The methods can also be used in the
CC diagnosis of disorders associated with MAGE-3 expression. Included in the
CC invention are other human tumour antigens (see AAB02596-B02637), and PCR
CC primers used in the course of the invention (see AAA37929-A37937 and
CC AAA37941-A37942)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

RESULT 51
AAB08668
ID AAB08668 standard; peptide; 9 AA.
XX
AC AAB08668;
XX
DT 02-JAN-2001 (first entry)
XX
DE Antigenic peptide from tumour rejection antigen MAGE-A1.
XX
KW EphA3; HLA class II-binding peptide; human leukocyte antigen; antigen;
KW CD4+ T lymphocyte; tumour associated gene; vaccine.
XX
OS Homo sapiens.
XX
PN WO200050589-A1.
XX
PD 31-AUG-2000.
XX
PF 18-FEB-2000; 2000WO-US004326.
XX
PR 22-FEB-1999; 99US-0121170P.
PR 08-OCT-1999; 99US-0158566P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Chiari R, Coulie P, Boon-Falleur T;
XX
DR WPI; 2000-572089/53.
XX
PT Novel tyrosine kinase receptor, EphA3 human leukocyte antigen (HLA) class
PT II binding peptide and nucleic acid encoding the receptor, useful for
PT diagnosing and treating conditions characterized by expression of EphA3
PT gene.
XX
PS Disclosure; Page 34; 107pp; English.
XX
CC AAB08668-B08704 represent antigenic peptides characteristic of tumours.
CC The peptides may be combined in vaccines with a human EphA3 HLA (human
CC leukocyte antigen) class II-binding peptide. EphA3 antigens, when
CC presented by an antigen presenting cell having a HLA class II molecule,
CC effectively induce activation and proliferation of CD4+ T lymphocytes.
CC EphA3 is a tumour associated gene. EphA3 HLA binding peptides are used
CC for selectively enriching a population of T lymphocytes. The peptides are
CC also used for diagnosing a disorder characterized by EphA3 or EphA3 HLA
CC binding peptide expression. The peptides are also used to treat a
CC disorder characterized by EphA3 expression. The EphA3 binding peptides
CC are useful in producing vaccines and antibody
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 1 EADPTGHSY 9

```
RESULT 52
AAM98899
ID   AAM98899 standard; peptide; 9 AA.
XX
AC   AAM98899;
XX
DT   07-DEC-2001  (first entry)
XX
DE   Vaccine related MHC ligand peptide SEQ ID NO:2.
XX
KW   Glutamic acid; glutamine; vaccine; major histocompatibility complex; MHC;
KW   immunomodulator; antiallergic; endocrine; neuroprotectant; virucidal;
KW   bactericidal; antiparasitic; fungicidal; cytostatic; medicine;
KW   pharmaceutical; immune disorder; immune deficiency; autoimmune;
KW   hypersensitivity; allergy; graft rejection; infection; hormonal disorder;
KW   central nervous system disease; cancer; melanoma; anti-melanoma vaccine;
KW   human immunodeficiency virus.
XX
OS   Homo sapiens.
XX
PN   WO200170772-A2.
XX
PD   27-SEP-2001.
XX
PF   22-MAR-2001; 2001WO-FR000872.
XX
PR   23-MAR-2000; 2000FR-00003711.
XX
PA   (FABR ) FABRE MEDICAMENT SA PIERRE.
XX
PI   Klinguer-Hamour C,  Corvaia N,  Beck A,  Goetsch L;
XX
DR   WPI; 2001-611470/70.
XX
PT   Stabilized pharmaceutical containing N-terminal glutamic acid or
PT   glutamine, useful e.g. in anti-melanoma vaccines, is an addition salt
PT   with strong acid.
XX
PS   Claim 9; Page 29; 149pp; French.
XX
CC   The present invention describes a pharmaceutical compound (I) that
CC   contains an N-terminal glutamic acid (Glu) or glutamine (Gln) residue in
CC   the form of an addition salt with a strong, physiologically acceptable
CC   acid (II). Also described are: (a) a pharmaceutical composition
CC   containing at least one (I); (b) a vaccine containing at least one (I)
CC   where this is a major histocompatibility complex (MHC) ligand (Ia); (c) a
CC   method for in vitro diagnosis of diseases associated with the presence of
CC   (Ia); (d) a kit for method (c) that includes a (Ia); and (e) a process
CC   for preparing (I). (I) has immunomodulator, endocrine, antiallergic,
CC   neuroprotectant, virucidal, bactericidal, antiparasitic, fungicidal and
CC   cytostatic activities. (I) are useful, in human or veterinary medicine,
CC   in pharmaceutical compositions (for treating immune disorders, e.g.
CC   immune deficiency, autoimmune states, hypersensitivity, allergy, graft
CC   rejection, infection, hormonal disorders and central nervous system
CC   diseases), also, where (I) is a MHC ligand (Ia), in vaccines for
CC   treatment or prevention of: (i) viral, bacterial, parasitic or fungal
CC   infections; or (ii) of cancers. A particular application is in anti-
CC   melanoma vaccines. (I) are also useful for in vitro diagnosis of diseases
CC   associated with interactions between MHC and (I), e.g. melanoma and human
CC   immunodeficiency virus infection. AAM98898 to AAM99592 represent peptides
CC   which can be used in pharmaceutical compounds from the present invention
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 4;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

```
RESULT 53
AAE02085
ID   AAE02085 standard; peptide; 9 AA.
XX
AC   AAE02085;
XX
DT   31-JUL-2001  (first entry)
XX
DE   MAGE-A1 human leukocyte antigen-A1-binding peptide.
XX
KW   Human; cytostatic; immunogen; MAGE-A1; human leukocyte antigen; HLA; CD8;
KW   cytotoxic T lymphocyte; cancer; carcinoma; melanoma; myeloma;
KW   brain tumour; sarcoma; vaccine; gene therapy.
XX
OS   Homo sapiens.
XX
PN   WO200129220-A2.
XX
PD   26-APR-2001.
XX
PF   19-OCT-2000; 2000WO-US028852.
XX
PR   19-OCT-1999;   99US-0160374P.
PR   01-FEB-2000; 2000US-0179570P.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Heidecker L,  Van Den Eynde B,  Boon-Falleur T,  Brasseur F;
XX
DR   WPI; 2001-328498/34.
XX
PT   New antigenic peptides derived from MAGE-A12 polypeptides, useful for
PT   diagnosis and treatment of cancer, such as bladder, lung, breast, brain,
PT   prostate and renal carcinomas.
XX
PS   Disclosure; Page 19; 69pp; English.
XX
CC   The patent discloses antigenic peptides derived from MAGE-A12 protein and
CC   presented by human leukocyte antigens (HLAs). These antigenic peptides
CC   when presented by an antigen presenting cell having a HLA class I
CC   molecule, effectively induce the activation and proliferation of CD8+
CC   cytotoxic T lymphocytes (CTLs). MAGE-A12 is useful for treating a subject
CC   having a disorder characterised by expression of MAGE-A12. The protein
CC   microarray comprising MAGE-A12 is useful for diagnosing a disorder,
CC   especially cancer, by determining the binding of an antibody, T
CC   lymphocytes or a HLA molecule isolated from the subject suspected of
CC   having the disorder characterised by the expression of MAGE-A12. MAGE-A12
CC   is useful for treating cancers, including bladder carcinomas, melanomas,
CC   oesophageal, lung, head and neck, breast, colorectal carcinomas,
CC   myelomas, brain tumours, sarcomas, prostate and renal carcinomas and to
CC   produce antibodies. MAGE-A12 antibodies are useful for diagnosing
CC   disorders characterised by expression of MAGE-A12 immunogenic
CC   polypeptide. These MAGE-A12 peptides are used as vaccines. They are also
CC   used in gene therapy. The present sequence is an antigenic peptide
CC   derived from MAGE-A1. This peptide which is characteristic of tumours is
CC   presented by HLA-A1 MHC (major histocompatibility complex) and is
CC   recognised by CTLs
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 4;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

```
RESULT 54
AAG64446
ID   AAG64446 standard; peptide; 9 AA.
XX
```

AC AAG64446;
XX
DT 20-SEP-2001 (first entry)
XX
DE Human tumour-associated antigen (TAA) peptide MAGE-1.A1.
XX
KW Human; TAA; tumour-associated antigen; vaccine; cancer; tumour;
KW immature autologous dendritic cell; hybrid; hybridoma; treating;
KW carcinogenesis; metastasis.
XX
OS Homo sapiens.
XX
PN EP1111039-A1.
XX
PD 27-JUN-2001.
XX
PF 22-DEC-1999; 99EP-00870279.
XX
PR 22-DEC-1999; 99EP-00870279.
XX
PA (ULBR) UNIV LIBRE BRUXELLES.
XX
PI Lambermont M, Toungouz-Nevessignsky M;
XX
DR WPI; 2001-419933/45.
XX
PT New composition containing 30-95 per cent dendritic cells of the total
PT number of blood cells present in the composition, useful for inducing an
PT immune anti-tumor response, and treating or preventing tumor, cancer or
PT metastases.
XX
PS Example 1; Page 5; 15pp; English.
XX
CC The present sequence is that of a human tumour-associated antigen (TAA)
CC useful to the invention. The invention relates to a composition
CC comprising immature autologous clinical grade dendritic cells suitable
CC for vaccination of cancer patients. As part of the cells preparation they
CC are loaded with the relevant clinical grade of TAA or with a tumoural
CC cell obtained from the patient for the generation of one or more
CC dendritic-like cells, tumour cell hybrids or hybridomas. The composition
CC is useful for inducing an immune anti-tumour response in a patient,
CC especially for treating or preventing carcinogenesis or cancer, tumour
CC development and metastases. The composition is also useful in
CC manufacturing a medicament for inducing anti-tumour response in a
CC patient, for treating or preventing cancer, tumour or metastases
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 55
AAB95896
ID AAB95896 standard; peptide; 9 AA.
XX
AC AAB95896;
XX
DT 25-JUN-2001 (first entry)
XX
DE MHC class-I associated MAGE-1 epitope SEQ ID 3.
XX
KW Epitope; tumour antigen; antiviral; immunostimulatory; cervical cancer;
KW human papillomavirus-associated disease; condyloma; cervical dysplasia;
KW cervical dysplasia; major histocompatibility complex; MHC I.
XX
OS Unidentified.
XX
PN WO200119408-A1.
XX
PD 22-MAR-2001.
XX
PF 18-SEP-2000; 2000WO-US025559.
XX
PR 16-SEP-1999; 99US-00398534.
PR 16-SEP-1999; 99US-0154665P.
PR 09-DEC-1999; 99US-00458173.
PR 09-DEC-1999; 99US-0169846P.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Hedley ML, Urban RC, Chicz RM;
XX
DR WPI; 2001-265996/27.
XX
PT Novel nucleic acids encoding polyepitope polypeptides containing multiple
PT epitopes from one or more proteins, useful for treating tumors and as
PT vaccines against pathogenic agents.
XX
PS Disclosure; Page 7; 64pp; English.
XX
CC This invention relates to polynucleotides encoding a hybrid polypeptide
CC comprising a signal sequence and three segments that are either
CC contiguous or separated by a spacer amino acid or spacer peptide. The
CC invention specifically details polynucleotides encoding a polyepitope
CC peptide where the peptide segments are tumour antigens or a naturally
CC occurring protein of a pathogenic agent. The polyepitope peptides exhibit
CC antiviral and immunostimulatory activity. The polynucleotide and
CC polyepitope peptides are useful for eliciting an immune response in a
CC mammal. The polynucleotide and protein are useful as vaccines for
CC treating tumours and pathogenic infections. The polynucleotide is also
CC useful for preventing or treating human papillomavirus (HPV)-associated
CC diseases, particularly exophytic condyloma, flat condyloma, cervical
CC cancer, respiratory papilloma, conjunctival papilloma, genital-tract HPV
CC infection, cervical dysplasia, high grade squamous intraepithelial
CC lesions, and anal HPV infection. The polynucleotide and polypeptide are
CC useful for generating or enhancing prophylactic or therapeutic immune
CC response against pathogens, tumours or autoimmune diseases in a
CC population of individuals having diverse MHC allotypes, as positive
CC controls in T cell stimulation assays in vitro, and as tools to
CC understand processing of epitopes within cells. Peptides AAB95894 -
CC AAB96037 and AAB96044 - AAB96048 represent major histocompatibility
CC complex I (MHC I) associated tumour and pathogen antigens. The peptides
CC can be used as part of the polyepitope proteins of the invention. Also
CC included are examples of the polyepitope proteins represented by AAB96050
CC - AAB96052, and localisation signal peptides AAB96038 - AAB96043 and
CC AAB96049 which can be used in the construction of the polyepitope
CC peptides
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 56
AAG93746
ID AAG93746 standard; peptide; 9 AA.
XX
AC AAG93746;
XX
DT 17-SEP-2001 (first entry)
XX
DE Human melanoma antigen gene-1 (MAGE-1) peptide 1.
XX
KW Continuous flow production; microparticle; gene therapy;

KW antisense therapy; vaccination; treatment; autoimmune disease;
KW immune response modulation.
XX
OS Homo sapiens.
XX
PN WO200136583-A1.
XX
PD 25-MAY-2001.
XX
PF 17-NOV-2000; 2000WO-US031770.
XX
PR 19-NOV-1999; 99US-00443654.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Hedley ML, Hsu Y, Tyo M;
XX
DR WPI; 2001-425203/45.
XX
PT Continuous production of microparticles containing nucleic acid for e.g.
PT gene therapy, comprises mixing a solution of polymeric material and
PT nucleic acid with a surfactant solution, removing solvent and drying.
XX
PS Disclosure; Page 11; 47pp; English.
XX
CC The present sequence is that of a peptide of the invention. The invention
CC relates to a method for scalable, continuous flow production of a nucleic
CC acid containing microparticle that maintains the structural integrity of
CC the associated nucleic acid and results in a microparticle having purity
CC suitable for introduction into an animal host. Microparticles prepared
CC according to the method can be used for delivery of a nucleic acid for
CC gene therapy, antisense therapy, vaccination, treatment of autoimmune
CC disease and either specific or non-specific modulation of an immune
CC response. The microparticles may also be used to deliver nucleic acid
CC encoding a protein or peptide useful in any kind of therapy. The method
CC is economical, aseptic and scalable. The method also enables control over
CC the size of microparticles. The microparticles produced are free of
CC impurities such as organic solvents and are readily dispersed in a wide
CC range of dispersing agents
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 57
AAU72014
ID AAU72014 standard; peptide; 9 AA.
XX
AC AAU72014;
XX
DT 26-FEB-2002 (first entry)
XX
DE MAGE-1 protein antigen #8.
XX
KW Melanoma antigen; MART-1; MAGE-1; gp100; cytostatic; immune response;
KW immunotherapeutic; heat shock protein; tyrosinase; BAGE; NYEs01; GM2;
KW tyrosinase related protein 1; tyrosinase related protein 2; vaccine;
KW javelin molecule; melanoma antigen recognised by T cells-1; human.
XX
OS Homo sapiens.
XX
PN WO200178655-A2.
XX
PD 25-OCT-2001.
XX
PF 17-APR-2001; 2001WO-US012449.
XX
PR 17-APR-2000; 2000US-0197462P.
XX
PA (HOUG/) HOUGHTON A.
PA (LIVI/) LIVINGSTON P.
PA (ALAW/) AL-AWQATI Q.
PA (MAYH/) MAYHEW M.
PA (HOEM/) HOE M.
XX
PI Houghton A, Livingston P, Al-Awqati Q, Mayhew M, Hoe M;
XX
DR WPI; 2001-663092/76.
XX
PT Anti cancer vaccine for the treatment of melanoma comprises a heat shock
PT protein and a melanoma antigen i.e. tyrosinase.
XX
PS Claim 2; Page 13; 150pp; English.
XX
CC The invention relates to a method of induction of an immune response,
CC comprising administration of an immunotherapeutic composition, comprising
CC a heat shock protein, and a melanoma antigen, where the melanoma antigen
CC is selected from tyrosinase, tyrosinase related protein 1, tyrosinase
CC related protein 2, gp 100, MAGE antigens, BAGE antigens, NYEs01, MART
CC antigens, GM2, antigenic portions and combinations of these. The melanoma
CC antigen is covalently bound to a javelin molecule, where the melanoma
CC antigen bound to the javelin molecule is non-covalently bound to the heat
CC shock protein. The composition is useful for inducing an immune response
CC for the treatment of melanoma. AAU71980-AAU72481 represent melanoma
CC antigen peptides of the invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 58
AAB99968
ID AAB99968 standard; peptide; 9 AA.
XX
AC AAB99968;
XX
DT 27-JUL-2001 (first entry)
XX
DE Delayed type hypersensitivity test MAGE-1 peptide.
XX
KW Cancer; melanoma; vaccine; immunotherapy; gene therapy; dendrite;
KW monocyte; interleukin-2; IL-2; antigen presenting cell; APC.
XX
OS Unidentified.
XX
PN WO200128583-A2.
XX
PD 26-APR-2001.
XX
PF 18-OCT-2000; 2000WO-US028837.
XX
PR 18-OCT-1999; 99US-0240933P.
XX
PA (SVIN-) ST VINCENT'S HOSPITAL & MEDICAL CENT NEW.
XX
PI Wallack MK, Sivanandham M;
XX
DR WPI; 2001-290821/30.
XX
PT Novel melanoma vaccine for preventing, treating cancer, has recombinant
PT interleukin-2 encoding vaccinia virus and antigen presenting cells pulsed
PT with melanoma antigens derived from cancerous melanoma cell lines.

```
XX
PS   Example 2; Page 28; 54pp; English.
XX
CC   The present invention describes an immunotherapeutic vaccine comprising
CC   antigen presenting cells pulsed with a preparation containing enucleated
CC   cancer cell cytosol and membranes, which have been infected with a
CC   Vaccinia virus encoding an immunostimulatory molecule. The antigen
CC   presenting cells (APCs) are preferably monocytes or dendrites. This
CC   vaccine is particularly useful in the treatment of melanoma, but can also
CC   be used in the treatment of other cancers, including squamous cell
CC   carcinoma, lung, breast, testicular, prostatic, ovarian, bladder, other
CC   skin, brain, pancreatic, primary hepatic and gastrointestinal cancers,
CC   head and neck, thyroid and renal cell carcinomas, soft tissue and bone
CC   sarcomas, angiosarcomas, mast cell tumours, lymphomas and haematopoietic
CC   neoplasias. The present sequence is a MAGE-1 peptide used in a delayed
CC   type hypersensitivity assay to evaluate the immune response against
CC   melanoma antigens
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 4;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 59
AAB31302
ID   AAB31302 standard; peptide; 9 AA.
XX
AC   AAB31302;
XX
DT   20-APR-2001  (first entry)
XX
DE   Exemplary antigen characteristic of tumours and derived from MAGE-A1.
XX
KW   MAGE-A1; HLA; human leukocyte antigen; CD4+ T lymphocyte; cancer;
KW   MAGE-A1 HLA class II-binding protein; vaccine.
XX
OS   Homo sapiens.
XX
PN   WO200078806-A1.
XX
PD   28-DEC-2000.
XX
PF   14-JUN-2000; 2000WO-US016287.
XX
PR   18-JUN-1999;   99US-00336091.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Van Snick J,  Lethe B,  Chaux P,  Boon-Falleur T,  Van Der Bruggen P;
XX
DR   WPI; 2001-102698/11.
XX
PT   Novel MAGE-A1 human leukocyte antigen class II peptides which bind to and
PT   are presented to the class II molecules, useful for inducing immune
PT   response and treating cancers characterized by expression of MAGE-A1.
XX
PS   Disclosure; Page 31; 78pp; English.
XX
CC   AAB31302-59 represent exemplary antigens which are characteristic of
CC   tumours. They can be used to enhance the immune response of vaccines
CC   comprising peptides derived from human MAGE-A1 HLA (human leukocyte
CC   antigen) class II-binding protein. Peptides derived from the MAGE-A1 HLA
CC   binding protein stimulate the activity and proliferation of CD4+ T
CC   lymphocytes. The MAGE-A1 HLA binding protein is useful as a diagnostic
CC   agent for diagnosing a disorder characterized by expression of MAGE-A1.
CC   The protein is used for treating a disorder characterized by expression
CC   of MAGE-A1 such as cancers e.g. melanomal, squamous cell carcinomas,
CC   colorectal carcinomas, osteosarcomas, and lymphocytic leukemias. Peptides
CC   derived from the MAGE-A1 HLA binding protein are useful in the production
CC   of anti-tumour vaccines
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 4;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 60
AAB82003
ID   AAB82003 standard; peptide; 9 AA.
XX
AC   AAB82003;
XX
DT   12-JUN-2001  (first entry)
XX
DE   HLA-A1 binding peptide derived from MAGE-A1.
XX
KW   Multiple myeloma; tumour rejection antigen precursor; MAGE; BAGE; GAGE;
KW   LAGE; NY-ESO-1; PRAME; DAGE; human; HLA.
XX
OS   Homo sapiens.
XX
PN   US6210886-B1.
XX
PD   03-APR-2001.
XX
PF   30-OCT-1998;   98US-00183931.
XX
PR   04-FEB-1998;   98US-00018422.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Van Baren N,  Brasseur F,  Boon-Falleur T;
XX
DR   WPI; 2001-289628/30.
XX
PT   Detecting multiple myeloma in a patient, comprises contacting a nucleic
PT   acid containing sample taken from bone marrow or blood with a
PT   hybridization probe specific for a tumor rejection antigen precursor.
XX
PS   Example 3; Col 11; 16pp; English.
XX
CC   The present invention relates to a method for detecting multiple myeloma.
CC   The method comprises contacting a nucleic acid containing a sample taken
CC   from a bone marrow or blood of a patient, with a hybridisation probe
CC   specific for a tumour rejection antigen precursor. Tumour rejection
CC   antigen precursors used in the present invention are the MAGE family,
CC   BAGE, GAGE, LAGE, NY-ESO-1 and PRAME (previously referred to as DAGE).
CC   Expression of the tumour rejection antigen precursor indicates possible
CC   multiple myeloma in the patient. The method can also be used for
CC   monitoring the disease progress and course of therapeutic regime. The
CC   present sequence is a peptide derived from a tumour rejection antigen
CC   precursor, which was used in the method of the present invention
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 4;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

```
RESULT 61
AAE06810
ID   AAE06810 standard; peptide; 9 AA.
XX
AC   AAE06810;
XX
DT   16-OCT-2001  (first entry)
XX
DE   Human MAGE-A1 antigenic peptide #4.
XX
KW   MAGE-A1 antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW   tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW   CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW   myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW   gene therapy; human; tumour rejection antigen; TRA.
XX
OS   Homo sapiens.
XX
PN   WO200153833-A1.
XX
PD   26-JUL-2001.
XX
PF   19-JAN-2001; 2001WO-US002008.
XX
PR   20-JAN-2000; 2000US-0177242P.
PR   25-OCT-2000; 2000US-0243212P.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Luiten R,  Boon-Falleur T,  Van Der Bruggen P,  Stroobant V;
PI   Demotte N,  Schultz E;
XX
DR   WPI; 2001-488724/53.
XX
PT   Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT   binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT   diagnosis and treatment of a disorder characterized by expression of MAGE
PT   -A1 or -A3.
XX
PS   Claim 2; Page 45; 103pp; English.
XX
CC   The invention relates to functional variants and isolated mimetics of a
CC   MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC   of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC   the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC   presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC   antigenic peptide acts by binding to HLA molecules on tumour cells and
CC   stimulating recognition of these cells and thus signalling them to the
CC   immune system for destruction. The peptide when presented by HLA molecule
CC   induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC   The MAGE antigenic peptide is used to treat and diagnose disorders
CC   characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC   e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC   prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC   carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC   tumours. The present sequence is a human MAGE-A1 antigenic peptide
CC   presented by HLA-B35
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 4;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 62
AAE20396
ID   AAE20396 standard; peptide; 9 AA.
XX
AC   AAE20396;
XX
DT   18-JUN-2002  (first entry)
XX
DE   Human melanoma tumour associated antigen (TAA) peptide epitope #1.
XX
KW   Gene-delivery compound; single-chain binding polypeptide; SCBP;
KW   nucleic acid-binding moiety; NABM; lipid-associating moiety; LAM;
KW   gene therapy; targetted gene delivery; tumour associated antigen; TAA;
KW   epitope; human.
XX
OS   Homo sapiens.
XX
PN   WO200200914-A2.
XX
PD   03-JAN-2002.
XX
PF   25-JUN-2001; 2001WO-US020182.
XX
PR   23-JUN-2000; 2000US-0213653P.
XX
PA   (HUST/) HUSTON J S.
PA   (WILS/) WILS P.
PA   (QUAN/) QUAN Z.
PA   (LAUR/) LAURENT O.
PA   (MARA/) MARASCO W A.
PA   (SCHE/) SCHERMAN D.
XX
PI   Huston JS,  Wils P,  Quan Z,  Laurent O,  Marasco WA,  Scherman D;
XX
DR   WPI; 2002-268789/31.
XX
PT   Gene-delivery compound for targeted gene delivery, comprises single-chain
PT   binding polypeptide having effector segment with cysteinyl residue and
PT   nucleic acid-binding/lipid-associating moiety coupled to polypeptide by
PT   residue.
XX
PS   Disclosure; Page 29; 96pp; English.
XX
CC   The invention relates to gene-delivery compound comprising a single-chain
CC   binding polypeptide (SCBP) having at least one effector segment having a
CC   cysteinyl residue, and a nucleic acid-binding moiety (NABM) or a lipid-
CC   associating moiety (LAM) coupled to SCBP by the residue. Gene-delivery
CC   compound is useful for targeted gene delivery for treating diseases by
CC   gene therapy. The present sequence is human melanoma tumour associated
CC   antigen (TAA) peptide epitope. TAA may be targetted by the SCBP of the
CC   present invention
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 5;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 63
AAO17093
ID   AAO17093 standard; peptide; 9 AA.
XX
AC   AAO17093;
XX
DT   06-JUN-2002  (first entry)
XX
DE   Human mage-1 protein antigen SEQ ID NO: 13.
XX
KW   Cryopreserved mature dendritic cell; antigen; vaccine; cytostatic;
KW   virucide; cancer; hepatitis B virus.
XX
OS   Homo sapiens.
```

XX
PN WO200216560-A1.
XX
PD 28-FEB-2002.
XX
PF 24-AUG-2001; 2001WO-EP009790.
XX
PR 24-AUG-2000; 2000DE-01041515.
XX
PA (SCHU/) SCHULER G.
XX
PI Schuler G, Schuler-Thurner B;
XX
DR WPI; 2002-292062/33.
XX
PT Preparation of cryopreserved, mature dendritic cells, useful in vaccines,
PT comprises culturing immature cells on medium containing cocktail of
PT maturation factors, then freezing.
XX
PS Disclosure; Fig 28; 87pp; German.
XX
CC The present invention relates to a method for the preparation of ready-
CC for-use, cryopreserved, mature dendritic cells comprising growing
CC immature dendritic cells in a culture medium that includes a 'maturation
CC cocktail' of one or more maturation stimuli and freezing the resulting
CC matured cells in a freezing medium that does not contain heterologous
CC serum. When loaded with antigens, the dendritic cells can be used as
CC vaccines, e.g. against tumours and hepatitis B virus. The present
CC sequence is an antigen described in the invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 64
AAM50608
ID AAM50608 standard; peptide; 9 AA.
XX
AC AAM50608;
XX
DT 04-APR-2002 (first entry)
XX
DE Peptide from MAGE-1 protein.
XX
KW MAGE-1; Melan-A; melanoma; human leucocyte antigen; HLA; CTL;
KW cytotoxic T lymphocyte; T cell; vaccine.
XX
OS Homo sapiens.
XX
PN US6326200-B1.
XX
PD 04-DEC-2001.
XX
PF 18-JUN-1998; 98US-00099543.
XX
PR 23-JUN-1997; 97US-00880963.
PR 16-APR-1998; 98US-00061388.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Valmori D, Cerottini J, Romero P;
XX
DR WPI; 2002-129502/17.
XX
PT A method for provoking proliferation of cytolytic T cells where a sample
PT containing cytolytic T cell precursors is contacted with a complex of a
PT decapeptide and an HLA-A2 molecule is useful to generate cytolytic T
PT cells.
XX
PS Example 7; Col 13; 13pp; English.
XX
CC The present sequence is that of a peptide derived from MAGE-1 that is
CC known to bind to human leucocyte antigen HLA-A1 molecules to the
CC stimulate lysis. The peptide was as a control in a functional peptide
CC competition assay to examine the binding of melanoma antigen Melan-A
CC derived peptides of the invention (see AAM50588-89 and AAM50600-01) to
CC human leucocyte antigen HLA-Astar0201. The control showed no binding in
CC this assay. The invention provides new nonapeptides and decapeptides that
CC act as HLA binders and CTL stimulators. A claimed method of provoking the
CC proliferation of CTLs involves contacting a sample containing CTL
CC precursors with a complex of a peptide, especially those given in
CC AAM50600-02, and an HLA-A2 molecule
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 65
AAE19080
ID AAE19080 standard; peptide; 9 AA.
XX
AC AAE19080;
XX
DT 21-MAY-2002 (first entry)
XX
DE HLA-A1 restricted target antigen MAGE-1 immunological epitope #1.
XX
KW Human leukocyte antigen; HLA; pharmaceutical composition; target antigen;
KW immunological epitope; replication-defective virus; RDV; immune response;
KW chemotherapy; granulocyte-monocyte-colony stimulating factor; cytostatic;
KW GM-CSF; MHC; major histocompatibility complex; tumour; head; pancreatic;
KW neck; breast; prostate; colorectal; melanoma; myeloidysplastic syndrome;
KW metastatic breast skin lesion; corticosteroid therapy; erythropoietin;
KW cytopenia; neutropenia; vaccine; immunostimulant.
XX
OS Homo sapiens.
XX
PN WO200195919-A2.
XX
PD 20-DEC-2001.
XX
PF 15-JUN-2001; 2001WO-US019201.
XX
PR 15-JUN-2000; 2000US-0211717P.
XX
PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
PA (THER-) THERION BIOLOGICS CORP.
XX
PI Schlom J, Greiner JW, Kass E, Panicali D;
XX
DR WPI; 2002-205852/26.
XX
PT Composition for enhancing immune responses, particularly anti-tumor
PT responses and treating neutropenia, cytopenia, comprises replication-
PT defective virus encoding granulocyte-monocyte-colony stimulating factor.
XX
PS Claim 9; Page 15; 118pp; English.
XX
CC The present invention relates to a pharmaceutical composition comprising
CC a replication-defective virus (RDV) encoding granulocyte-monocyte-colony
CC stimulating factor (GM-CSF). The invention is useful for enhancing cell-
CC mediated or humoral immune response in an individual, by enhancing

CC migration of APC expressing CD11c^+/I-Ab^+, major histocompatibility
CC complex (MHC) class II, at an injection site, regional lymph node at a
CC tumour site, APC proliferation or function, CD4^+T or CD8^+T cell
CC activation, interleukin (IL)-2, interferon (IFN)-gamma or tumour necrosis
CC factor (TNF)-alpha production or their combinations. The composition
CC enhances an antigen-specific T-cell response in an individual to a target
CC antigen or its immunological epitope and an anti-tumour response in an
CC individual with a head tumour, neck, breast, pancreatic, prostate,
CC colorectal or metastatic tumour or melanoma, or metastatic breast skin
CC lesion. The invention is further useful for treating neutropenia
CC resulting from chemotherapy, corticosteroid therapy, irradiation or an
CC infection, by raising the neutrophil count to normal levels and for
CC treating cytopenias in patients with myeloidysplastic syndrome in
CC combination with erythropoietin, by increasing neutrophil count and
CC erythroid precursors. The composition enhances immune response to
CC vaccines such as DPT, Td, DtaP, Hib, DtaP-Hib, MMR, Hepatitis A,
CC hepatitis B, lyme's disease, influenza, tetravalent meningococcal
CC polysaccharide, pneumococcal polysaccharide, anthrax, cholera, plague,
CC yellow fever and Bacillus Calmette-Guerin vaccine. The present sequence
CC is human leukocyte antigen (HLA)-restricted target tumour antigen
CC immunological epitope
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 66
ABG66793
ID ABG66793 standard; peptide; 9 AA.
XX
AC ABG66793;
XX
DT 24-SEP-2002 (first entry)
XX
DE Tumour antigen MAGE-1, HLA-A1 epitope.
XX
KW Beta-2 microglobulin; beta-2m; cytotoxic T lymphocyte; CTL; HLA;
KW human leukocyte antigen; fusion protein; epitope; cytostatic; tumour;
KW gastrointestinal tumour; colorectal cancer; gastro-oesophageal cancer;
KW liver cancer; biliary tract cancer; pancreatic cancer; vaccine;
KW prostatic cancer; testicular cancer; lung cancer; breast cancer;
KW malignant melanoma; mesothelioma; brain tumour; ovarian cancer;
KW uterine cancer; cervical cancer; head and neck cancer; bladder cancer;
KW Kaposi's sarcoma; renal carcinoma; leukaemia; lymphoma;
KW acquired immunodeficiency syndrome; AIDS-related lymphoma.
XX
OS Homo sapiens.
XX
PN WO200236146-A2.
XX
PD 10-MAY-2002.
XX
PF 01-NOV-2001; 2001WO-GB004844.
XX
PR 02-NOV-2000; 2000GB-00026812.
XX
PA (ISIS-) ISIS INNOVATION LTD.
XX
PI Tafuro S, Meier U, Mcmichael AJ, Bell JI, Layton G, Hunter M;
XX
DR WPI; 2002-508108/54.
XX
PT New polynucleotide capable of expressing an epitope-beta2m fusion protein
PT useful for generating cytotoxic T lymphocyte responses against a tumor
PT and in restoring antigen presentation in the tumor of a host.
XX
PS Disclosure; Page 25; 46pp; English.
XX
CC The invention relates to a new polynucleotide capable of expressing an
CC epitope-beta_2m fusion protein useful for generating cytotoxic T
CC lymphocyte (CTL) responses against a tumour or in restoring antigen
CC presentation in the tumour of a host. Also included are a polynucleotide
CC capable of expressing an epitope-beta_2m fusion protein in combination
CC with a vaccination agent that stimulates a CTL response against the
CC epitope of the fusion protein for simultaneous, separate or sequential
CC use in the treatment of cancer and a method of treating a tumour by
CC administering a capable of expressing an epitope-beta_2m fusion protein,
CC and optionally a vaccination agent that stimulates a CTL response against
CC the epitope of the fusion protein. The polynucleotide is useful for
CC generating CTL responses against tumours, for restoring antigen
CC presentation in the tumour, and subsequently for treating cancers, such
CC as gastrointestinal tumour, prostatic, testicular, lung or breast cancer,
CC malignant melanoma, mesothelioma, brain tumour, ovarian cancer, uterine
CC cancer including cervical cancer, cancer of the head and neck, bladder
CC cancer, Kaposi's sarcoma, AIDS (acquired immunodeficiency syndrome)-
CC related Kaposi's sarcoma, sarcomas, osteosarcoma, renal carcinoma, and
CC haematopoietic malignant tumours such as leukaemia and lymphoma. The
CC epitope is an HLA (human leukocyte antigen) peptide derived from a viral
CC or tumour antigen. The present sequence is a tumour HLA epitope used in
CC the fusion proteins of the invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 67
ABG80306
ID ABG80306 standard; peptide; 9 AA.
XX
AC ABG80306;
XX
DT 29-AUG-2003 (revised)
DT 15-NOV-2002 (first entry)
XX
DE MHC class I molecule, viral epitope #554.
XX
KW Major histocompatibility complex; MHC; MHC class I molecule; virus;
KW epitope; cytotoxic T lymphocyte response; CTL response; lymphatic system;
KW antigen; immunogenic; malignant tumour; carcinoma; melanoma; leukaemia;
KW lymphoma; infectious disease; hepatitis; malaria; measles; tuberculosis;
KW acquired immune deficiency syndrome; AIDS.
XX
OS Viruses.
XX
PN WO200262368-A2.
XX
PD 15-AUG-2002.
XX
PF 22-JAN-2002; 2002WO-US002033.
XX
PR 02-FEB-2001; 2001US-00776232.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Kundig TM, Simard JJL;
XX
DR WPI; 2002-657506/70.
XX
PT Inducing or sustaining immunological cytotoxic T lymphocyte response in a
PT mammal, useful for treating a mammal with malignant tumor or infectious
PT disease, by directly administering an antigen to the lymphatic system of
PT the mammal.

XX
PS Disclosure; Page 45; 73pp; English.
XX
CC The invention relates to a method of inducing and/or sustaining an
CC immunological cytotoxic T lymphocyte (CTL) response in a mammal
CC comprising administering directly to the lymphatic system of the mammal:
CC (a) an antigen in the form of a polypeptide; (b) a vector comprising a
CC nucleic acid encoding the antigen; or (c) a non-peptide antigen. The
CC method is useful for inducing and/or sustaining CTL response in a mammal.
CC This is particularly useful for treating a mammal having a malignant
CC tumour (e.g. carcinoma, melanoma, leukaemia or lymphoma) or infectious
CC disease (e.g. hepatitis, acquired immune deficiency syndrome (AIDS),
CC malaria, measles or tuberculosis), or in an animal having a
CC predisposition to these diseases. The mammal may be dogs, cats, mice,
CC cattle, sheep, pigs, goats, rabbits, or preferably humans. ABG79753-
CC ABG80319 represent viral epitopes on major histocompatibility complex
CC (MHC) class I molecules, used in the method of the invention. (Updated on
CC 29-AUG-2003 to standardise OS field)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 68
ABG80107
ID ABG80107 standard; peptide; 9 AA.
XX
AC ABG80107;
XX
DT 29-AUG-2003 (revised)
DT 15-NOV-2002 (first entry)
XX
DE MHC class I molecule, viral epitope #355.
XX
KW Major histocompatibility complex; MHC; MHC class I molecule; virus;
KW epitope; cytotoxic T lymphocyte response; CTL response; lymphatic system;
KW antigen; immunogenic; malignant tumour; carcinoma; melanoma; leukaemia;
KW lymphoma; infectious disease; hepatitis; malaria; measles; tuberculosis;
KW acquired immune deficiency syndrome; AIDS.
XX
OS Viruses.
XX
PN WO200262368-A2.
XX
PD 15-AUG-2002.
XX
PF 22-JAN-2002; 2002WO-US002033.
XX
PR 02-FEB-2001; 2001US-00776232.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Kundig TM, Simard JJL;
XX
DR WPI; 2002-657506/70.
XX
PT Inducing or sustaining immunological cytotoxic T lymphocyte response in a
PT mammal, useful for treating a mammal with malignant tumor or infectious
PT disease, by directly administering an antigen to the lymphatic system of
PT the mammal.
XX
PS Disclosure; Page 31; 73pp; English.
XX
CC The invention relates to a method of inducing and/or sustaining an
CC immunological cytotoxic T lymphocyte (CTL) response in a mammal
CC comprising administering directly to the lymphatic system of the mammal:
CC (a) an antigen in the form of a polypeptide; (b) a vector comprising a
CC nucleic acid encoding the antigen; or (c) a non-peptide antigen. The
CC method is useful for inducing and/or sustaining CTL response in a mammal.
CC This is particularly useful for treating a mammal having a malignant
CC tumour (e.g. carcinoma, melanoma, leukaemia or lymphoma) or infectious
CC disease (e.g. hepatitis, acquired immune deficiency syndrome (AIDS),
CC malaria, measles or tuberculosis), or in an animal having a
CC predisposition to these diseases. The mammal may be dogs, cats, mice,
CC cattle, sheep, pigs, goats, rabbits, or preferably humans. ABG79753-
CC ABG80319 represent viral epitopes on major histocompatibility complex
CC (MHC) class I molecules, used in the method of the invention. (Updated on
CC 29-AUG-2003 to standardise OS field)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 69
ABG80307
ID ABG80307 standard; peptide; 9 AA.
XX
AC ABG80307;
XX
DT 29-AUG-2003 (revised)
DT 15-NOV-2002 (first entry)
XX
DE MHC class I molecule, viral epitope #555.
XX
KW Major histocompatibility complex; MHC; MHC class I molecule; virus;
KW epitope; cytotoxic T lymphocyte response; CTL response; lymphatic system;
KW antigen; immunogenic; malignant tumour; carcinoma; melanoma; leukaemia;
KW lymphoma; infectious disease; hepatitis; malaria; measles; tuberculosis;
KW acquired immune deficiency syndrome; AIDS.
XX
OS Viruses.
XX
PN WO200262368-A2.
XX
PD 15-AUG-2002.
XX
PF 22-JAN-2002; 2002WO-US002033.
XX
PR 02-FEB-2001; 2001US-00776232.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Kundig TM, Simard JJL;
XX
DR WPI; 2002-657506/70.
XX
PT Inducing or sustaining immunological cytotoxic T lymphocyte response in a
PT mammal, useful for treating a mammal with malignant tumor or infectious
PT disease, by directly administering an antigen to the lymphatic system of
PT the mammal.
XX
PS Disclosure; Page 45; 73pp; English.
XX
CC The invention relates to a method of inducing and/or sustaining an
CC immunological cytotoxic T lymphocyte (CTL) response in a mammal
CC comprising administering directly to the lymphatic system of the mammal:
CC (a) an antigen in the form of a polypeptide; (b) a vector comprising a
CC nucleic acid encoding the antigen; or (c) a non-peptide antigen. The
CC method is useful for inducing and/or sustaining CTL response in a mammal.
CC This is particularly useful for treating a mammal having a malignant
CC tumour (e.g. carcinoma, melanoma, leukaemia or lymphoma) or infectious
CC disease (e.g. hepatitis, acquired immune deficiency syndrome (AIDS),

CC malaria, measles or tuberculosis), or in an animal having a
CC predisposition to these diseases. The mammal may be dogs, cats, mice,
CC cattle, sheep, pigs, goats, rabbits, or preferably humans. ABG79753-
CC ABG80319 represent viral epitopes on major histocompatibility complex
CC (MHC) class I molecules, used in the method of the invention. (Updated on
CC 29-AUG-2003 to standardise OS field)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 70
ABG80315
ID ABG80315 standard; peptide; 9 AA.
XX
AC ABG80315;
XX
DT 29-AUG-2003 (revised)
DT 15-NOV-2002 (first entry)
XX
DE MHC class I molecule, viral epitope #563.
XX
KW Major histocompatibility complex; MHC; MHC class I molecule; virus;
KW epitope; cytotoxic T lymphocyte response; CTL response; lymphatic system;
KW antigen; immunogenic; malignant tumour; carcinoma; melanoma; leukaemia;
KW lymphoma; infectious disease; hepatitis; malaria; measles; tuberculosis;
KW acquired immune deficiency syndrome; AIDS.
XX
OS Viruses.
XX
PN WO200262368-A2.
XX
PD 15-AUG-2002.
XX
PF 22-JAN-2002; 2002WO-US002033.
XX
PR 02-FEB-2001; 2001US-00776232.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Kundig TM, Simard JJL;
XX
DR WPI; 2002-657506/70.
XX
PT Inducing or sustaining immunological cytotoxic T lymphocyte response in a
PT mammal, useful for treating a mammal with malignant tumor or infectious
PT disease, by directly administering an antigen to the lymphatic system of
PT the mammal.
XX
PS Disclosure; Page 46; 73pp; English.
XX
CC The invention relates to a method of inducing and/or sustaining an
CC immunological cytotoxic T lymphocyte (CTL) response in a mammal
CC comprising administering directly to the lymphatic system of the mammal:
CC (a) an antigen in the form of a polypeptide; (b) a vector comprising a
CC nucleic acid encoding the antigen; or (c) a non-peptide antigen. The
CC method is useful for inducing and/or sustaining CTL response in a mammal.
CC This is particularly useful for treating a mammal having a malignant
CC tumour (e.g. carcinoma, melanoma, leukaemia or lymphoma) or infectious
CC disease (e.g. hepatitis, acquired immune deficiency syndrome (AIDS),
CC malaria, measles or tuberculosis), or in an animal having a
CC predisposition to these diseases. The mammal may be dogs, cats, mice,
CC cattle, sheep, pigs, goats, rabbits, or preferably humans. ABG79753-
CC ABG80319 represent viral epitopes on major histocompatibility complex
CC (MHC) class I molecules, used in the method of the invention. (Updated on
CC 29-AUG-2003 to standardise OS field)
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 1 EADPTGHSY 9

RESULT 71
ABU96602
ID ABU96602 standard; peptide; 9 AA.
XX
AC ABU96602;
XX
DT 12-AUG-2003 (first entry)
XX
DE MHC class I associated MAGE-1 peptide.
XX
KW Microparticle; microsphere; polynucleotide delivery; phagocytic cell;
KW tumour; viral infection; bacterial infection; fungal infection;
KW protozoan infection; gene therapy; major histocompatability complex;
KW MHC class I.
XX
OS Unidentified.
XX
PN US2002182258-A1.
XX
PD 05-DEC-2002.
XX
PF 18-JUL-2001; 2001US-00909460.
XX
PR 22-JAN-1997; 97US-0035983P.
PR 06-JAN-1998; 98US-00003253.
PR 22-JAN-1998; 98WO-US001499.
PR 11-MAR-1999; 99US-00266463.
PR 27-MAY-1999; 99US-00321346.
XX
PA (ZYCO-) ZYCOS INC.
XX
PI Lunsford LB, Putnam D, Hedley ML;
XX
DR WPI; 2003-438782/41.
XX
PT Microparticles, useful as vehicles for delivery of polynucleotides to
PT phagocytic cells, comprises polymeric matrix, lipid, and nucleic acid
PT molecule.
XX
PS Disclosure; Page 4; 37pp; English.
XX
CC The invention relates to a microparticle (microsphere) less than 20
CC microns in diameter that comprises: (1) a polymeric matrix; (2) a lipid;
CC and (3) a nucleic acid molecule. The microparticle is not encapsulated in
CC a liposome and the microparticle does not comprise a cell. The
CC microparticles are used as vehicles for the delivery of polynucleotides
CC into phagocytic cells. The microparticles can be used to express antigens
CC to treat tumour cells or viral, bacterial, fungal or protozoan
CC infections. The microparticles can be made without adversely affecting
CC nucleic acid integrity. The present sequence represents the amino acid
CC sequence of a major histocompatability complex, MHC, class I associated
CC peptide
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 52; DB 6; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||

```
Db          1 EADPTGHSY 9


RESULT 72
ABR57344
ID   ABR57344 standard; peptide; 9 AA.
XX
AC   ABR57344;
XX
DT   09-SEP-2003  (first entry)
XX
DE   MAGE-1.A1 specific peptide.
XX
KW   Antigen presenting cell; vaccination; nootropic; neuroprotective;
KW   antiarteriosclerotic; cytostatic; antidiabetic; hepatotropic;
KW   antiinflammatory; antiparasitic; fungicide; antibacterial; virucide;
KW   vaccine; Alzheimer's disease; atherosclerosis; cancer; diabetes;
KW   hepatitis; infection.
XX
OS   Synthetic.
XX
PN   WO2003046011-A1.
XX
PD   05-JUN-2003.
XX
PF   30-NOV-2001; 2001WO-EP014255.
XX
PR   30-NOV-2001; 2001WO-EP014255.
XX
PA   (CRUC-) CRUCELL HOLLAND BV.
XX
PI   Germeraad W;
XX
DR   WPI; 2003-493401/46.
XX
PT   New conjugate for targeting antigen presenting cells, useful for
PT   preventing, retardating or treating e.g., Alzheimer's disease,
PT   atherosclerosis, cancer, diabetes, hepatitis or fungal, bacterial or
PT   viral infections.
XX
PS   Disclosure; Page 25; 54pp; English.
XX
CC   The present invention describes a conjugate (I) for targeting antigen
CC   presenting cells (APCs) comprising at least one antigenic moiety
CC   conjugated to a targeting moiety that is capable of binding to a cell
CC   surface structure of an APC, and upon binding, inducing a cytotoxic T
CC   lymphocyte (CTL) and T-helper response. Also described: (1) a nucleic
CC   acid sequence encoding the antigenic or targeting moiety; (2) an
CC   expression vector comprising the nucleic acid sequence, operably linked
CC   to expression sequences for the APC; (3) a host cell transformed or
CC   transfected using the nucleic acid or expression vector; (4) a method for
CC   producing (I); (5) a method for generating an APC, capable of eliciting
CC   an immune response via MHC classes I and II presentation of processed
CC   antigen fragments; and (6) a pharmaceutical composition comprising (I) or
CC   the APC. (I) has nootropic, neuroprotective, virucide,
CC   antiarteriosclerotic, cytostatic, antidiabetic, hepatotropic, fungicide,
CC   antiinflammatory, antiparasitic and antibacterial activities, and can be
CC   used in vaccines. The conjugate (I) or APC can be used for preventing,
CC   retardating or treating e.g., Alzheimer's disease, atherosclerosis,
CC   cancer, diabetes, hepatitis or parasitic, fungal, bacterial or viral
CC   infections. The present sequence represents a MAGE-1.A1 specific peptide,
CC   which is used in the exemplification of the present invention
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 6;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 73
ADA19520
ID   ADA19520 standard; peptide; 9 AA.
XX
AC   ADA19520;
XX
DT   20-NOV-2003  (first entry)
XX
DE   Human cancer antigen, MAGE-A1 (MHC HLA-A1).
XX
KW   Lymphoid tissue-specific cell; haematopoietic progenitor cell;
KW   lymphoreticular stromal cell; transplantation; implantation;
KW   autoimmune disease; infectious disease; maintenance; expansion;
KW   differentiation; T cell tolerance; immune tolerance; T-cell reactivity;
KW   therapeutic; differentiated progeny; antigen; MHC;
KW   major histocompatibility complex; cancer; human.
XX
OS   Homo sapiens.
XX
PN   US6548299-B1.
XX
PD   15-APR-2003.
XX
PF   18-MAY-2000; 2000US-00574749.
XX
PR   12-NOV-1999;   99WO-US026795.
XX
PA   (PYKE/) PYKETT M J.
PA   (ROSE/) ROSENZWEIG M.
PA   (SCAD/) SCADDEN D T.
PA   (POZN/) POZNANSKY M C.
XX
PI   Pykett MJ,  Rosenzweig M,  Scadden DT,  Poznansky MC;
XX
DR   WPI; 2003-605374/57.
XX
PT   Producing lymphoid tissue-specific cell in vivo, useful in
PT   transplantation, implantation, autoimmune and/or infectious diseases by
PT   introducing hematopoietic progenitor and lymphoreticular stromal cells
PT   into a porous solid matrix.
XX
PS   Disclosure; SEQ ID NO 1; 34pp; English.
XX
CC   The invention discloses a method for producing lymphoid tissue-specific
CC   cell in vivo, comprising introducing haematopoietic progenitor cells and
CC   lymphoreticular stromal cells into a porous, solid matrix having
CC   interconnected pores of a pore size sufficient to permit the cells to
CC   grow throughout the matrix, and co-culturing the haematopoietic
CC   progenitor cells and lymphoreticular stromal cells. The methods are
CC   useful in transplantation, implantation, autoimmune diseases and/or
CC   infectious diseases. They are particularly useful for in vivo
CC   maintenance, expansion and/or differentiation of haematopoietic
CC   progenitor cells, for inducing T cell tolerance, for treating a subject
CC   to enhance immune tolerance, for inducing T-cell reactivity, and for
CC   identifying an agent suspected of affecting haematopoietic cell
CC   development. The lymphoid tissue-specific cells are useful in laboratory
CC   analysis and in therapeutics. The method provides rapid generation of a
CC   large number of differentiated progeny. The sequence presented is a
CC   cancer antigen which was used in the invention to expand haematopoietic
CC   progenitor cells.
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 6;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
```

```
RESULT 74
AAO23446
ID   AAO23446 standard; peptide; 9 AA.
XX
AC   AAO23446;
XX
DT   06-NOV-2003  (first entry)
XX
DE   MAGE-1 derived control peptide (SeqID 21).
XX
KW   Human leukocyte antigen; HLA; cellular immunology; cytolytic T cell; CTL;
KW   HLA-A2; differentiation antigen; melanoma; Melan-A; immunostimulant;
KW   vaccine; MAGE-1.
XX
OS   Synthetic.
XX
PN   US2003082804-A1.
XX
PD   01-MAY-2003.
XX
PF   21-FEB-2001; 2001US-00789649.
XX
PR   23-JUN-1997;   97US-00880963.
PR   16-APR-1998;   98US-00061388.
PR   18-JUN-1998;   98US-00099543.
XX
PA   (VALM/) VALMORI D.
PA   (CERO/) CEROTTINI J.
PA   (ROME/) ROMERO P.
XX
PI   Valmori D,  Cerottini J,  Romero P;
XX
DR   WPI; 2003-567464/53.
XX
PT   New isolated peptides that bind to human leukocyte antigen-A2 molecules,
PT   useful for provoking proliferation of cytotoxic T cells or lymphocytes
PT   and for detecting tumor infiltrating lymphocytes.
XX
PS   Example 7; Page 7; 27pp; English.
XX
CC   This invention relates to novel isolated peptides that bind human
CC   leukocyte antigen (HLA) molecules expressed on the cell surface.
CC   Specifically applicable in the field of cellular immunology, these
CC   peptides, usually nine or ten amino acids in length, complex with HLA-A2
CC   positive cells and thus present a target for recognition by cytolytic T
CC   cells (or lymphocytes) known as CTLs. As such, these peptides which are
CC   differentiation antigens derived from melanomas, termed Melan-A peptides,
CC   can induce the activation and proliferation of CTLs, and can also be used
CC   to identify the HLA-A2 positive cells. Furthermore, they can be used to
CC   determine the presence of tumour infiltrating lymphocytes in a tumour
CC   sample. Accordingly, the present invention describes these Melan-A
CC   derived peptides as immunostimulants and they also provide good targets
CC   for vaccine development. This peptide sequence is derived from MAGE-1 and
CC   is known to bind HLA-A1 molecules and stimulate lysis, this is a control
CC   peptide of the invention
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 52;  DB 6;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9


RESULT 75
AAW23038
ID   AAW23038 standard; peptide; 10 AA.
XX
AC   AAW23038;
XX
DT   25-MAR-2003  (revised)
DT   25-FEB-1998  (first entry)
XX
DE   MAGE-1/HLA-B44 tumour rejection antigen.
XX
KW   MAGE-1; tumour rejection antigen precursor; TRAP; HLA-B44;
KW   human leukocyte antigen B44; cytotoxic T lymphocyte; cancer; melanoma;
KW   therapy; diagnosis; vaccine.
XX
OS   Homo sapiens.
XX
PN   WO9731017-A1.
XX
PD   28-AUG-1997.
XX
PF   05-FEB-1997;   97WO-US001915.
XX
PR   20-FEB-1996;   96US-00602506.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Herman J,  Coulie P,  Boonfalleur T,  Van Der Bruggen P,  Luescher I;
XX
DR   WPI; 1997-435086/40.
XX
PT   Tumour rejection antigens presented by human leukocyte antigen B44
PT   molecules - useful to identify HLA-B44 positive cells for diagnosis and
PT   therapy of cellular abnormalities.
XX
PS   Claim 2; Page 49; 74pp; English.
XX
CC   This peptide is a tumour rejection antigen presented by a HLA-B44
CC   molecule and derived from a MAGE-1 tumour rejection antigen precursor
CC   (TRAP). Claimed tumour rejection antigens (AAW23038-43) are able to bind
CC   to HLA-B44 positive cells, making them useful in identifying cells which
CC   present HLA-B44 molecules on their surfaces for use in the diagnosis and
CC   therapy of cellular abnormalities. The complex of the tumour rejection
CC   antigen and HLA molecule provokes a cytolytic T cell response. The tumour
CC   rejection antigens, or complexes of tumour rejection antigens and HLA-
CC   B44, can be used as vaccines to treat disorders characterised by
CC   expression of the TRAP molecule such as cancer, especially melanoma.
CC   Vaccines can also be prepared from cells which present the tumour
CC   rejection antigen/HLA complexes on their surface, such as non-
CC   proliferative cancer cells and non-proliferative transfectants. (Updated
CC   on 25-MAR-2003 to correct PI field.)
XX
SQ   Sequence 10 AA;

  Query Match             100.0%;  Score 52;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.0033;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db          2 EADPTGHSY 10


RESULT 76
AAY46094
ID   AAY46094 standard; peptide; 10 AA.
XX
AC   AAY46094;
XX
DT   01-DEC-1999  (first entry)
XX
DE   Immunogenic peptide having a human leukocyte antigen binding motif #705.
XX
KW   Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
KW   immune response; T cell activation; major histocompatibility complex;
KW   cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
KW   prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
KW   vaccine; immunisation.
XX
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OS Synthetic.
OS Homo sapiens.
XX
PN WO9945954-A1.
XX
PD 16-SEP-1999.
XX
PF 13-MAR-1998; 98WO-US005039.
XX
PR 13-MAR-1998; 98WO-US005039.
XX
PA (EPIM-) EPIMMUNE INC.
XX
PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
XX
DR WPI; 1999-551214/46.
XX
PT New immunogenic peptides with HLA binding motif, useful in treatment and
PT diagnosis of cancers and viral diseases.
XX
PS Claim 1; Page 56; 150pp; English.
XX
CC AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
CC having a human major histocompatibility complex (MHC) Class I (also known
CC as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
CC can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
CC or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
CC the antigen from which the peptide is derived. Cytotoxic T lymphocytes
CC (CTLs) which destroy antigen-bearing cells are normally induced by an
CC antigen in the form of a peptide fragment bound to a HLA molecule, rather
CC than the intact foreign antigen itself, and are particularly important in
CC tumour rejection and in fighting viral infections. The peptides are
CC therefore useful therapeutically to treat or prevent viral infections and
CC cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
CC and C, AIDS, and renal carcinoma. They can be administered as vaccines to
CC elicit an immune response in individuals susceptible or otherwise at risk
CC of viral infection or cancer, or used to treat chronic or acute
CC conditions. They are also useful diagnostically, and can be used to
CC induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
CC the peptide e.g. to produce CTLs ex vivo for infusion back into a
CC patient. The polynucleotides encoding the immunogenic peptides are also
CC useful therapeutically and for immunisation as above
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 52; DB 2; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0033;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 EADPTGHSY 9
              |||||||||
Db          2 EADPTGHSY 10
```

RESULT 77
AAY47254
ID AAY47254 standard; peptide; 10 AA.
XX
AC AAY47254;
XX
DT 01-DEC-1999 (first entry)
XX
DE Immunogenic peptide having a human leukocyte antigen binding motif #1865.
XX
KW Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
KW immune response; T cell activation; major histocompatibility complex;
KW cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
KW prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
KW vaccine; immunisation.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9945954-A1.
XX
PD 16-SEP-1999.
XX
PF 13-MAR-1998; 98WO-US005039.
XX
PR 13-MAR-1998; 98WO-US005039.
XX
PA (EPIM-) EPIMMUNE INC.
XX
PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
XX
DR WPI; 1999-551214/46.
XX
PT New immunogenic peptides with HLA binding motif, useful in treatment and
PT diagnosis of cancers and viral diseases.
XX
PS Claim 1; Page 100; 150pp; English.
XX
CC AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
CC having a human major histocompatibility complex (MHC) Class I (also known
CC as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
CC can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
CC or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
CC the antigen from which the peptide is derived. Cytotoxic T lymphocytes
CC (CTLs) which destroy antigen-bearing cells are normally induced by an
CC antigen in the form of a peptide fragment bound to a HLA molecule, rather
CC than the intact foreign antigen itself, and are particularly important in
CC tumour rejection and in fighting viral infections. The peptides are
CC therefore useful therapeutically to treat or prevent viral infections and
CC cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
CC and C, AIDS, and renal carcinoma. They can be administered as vaccines to
CC elicit an immune response in individuals susceptible or otherwise at risk
CC of viral infection or cancer, or used to treat chronic or acute
CC conditions. They are also useful diagnostically, and can be used to
CC induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
CC the peptide e.g. to produce CTLs ex vivo for infusion back into a
CC patient. The polynucleotides encoding the immunogenic peptides are also
CC useful therapeutically and for immunisation as above
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 52; DB 2; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0033;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 EADPTGHSY 9
              |||||||||
Db          1 EADPTGHSY 9
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RESULT 78
AAE06811
ID AAE06811 standard; peptide; 10 AA.
XX
AC AAE06811;
XX
DT 16-OCT-2001 (first entry)
XX
DE Human MAGE-A1 antigenic peptide #5.
XX
KW MAGE-A1 antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW gene therapy; human; tumour rejection antigen; TRA.
XX
OS Homo sapiens.
XX
PN WO200153833-A1.
XX
PD 26-JUL-2001.
XX

PF 19-JAN-2001; 2001WO-US002008.
XX
PR 20-JAN-2000; 2000US-0177242P.
PR 25-OCT-2000; 2000US-0243212P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
XX
DR WPI; 2001-488724/53.
XX
PT Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.
XX
PS Claim 10; Page 52; 103pp; English.
XX
CC The invention relates to functional variants and isolated mimetics of a
CC MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC antigenic peptide acts by binding to HLA molecules on tumour cells and
CC stimulating recognition of these cells and thus signalling them to the
CC immune system for destruction. The peptide when presented by HLA molecule
CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC The MAGE antigenic peptide is used to treat and diagnose disorders
CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC tumours. The present sequence is a human MAGE-A1 antigenic peptide
CC presented by HLA-B35
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 52; DB 4; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0033;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 2 EADPTGHSY 10

RESULT 79
AAE06814
ID AAE06814 standard; peptide; 10 AA.
XX
AC AAE06814;
XX
DT 16-OCT-2001 (first entry)
XX
DE Human MAGE-A1 antigenic peptide #8.
XX
KW MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
XX
OS Homo sapiens.
XX
PN WO200153833-A1.
XX
PD 26-JUL-2001.
XX
PF 19-JAN-2001; 2001WO-US002008.
XX
PR 20-JAN-2000; 2000US-0177242P.
PR 25-OCT-2000; 2000US-0243212P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
XX
DR WPI; 2001-488724/53.
DR N-PSDB; AAD12991.
XX
PT Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.
XX
PS Claim 4; Fig 7; 103pp; English.
XX
CC The invention relates to functional variants and isolated mimetics of a
CC MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC antigenic peptide acts by binding to HLA molecules on tumour cells and
CC stimulating recognition of these cells and thus signalling them to the
CC immune system for destruction. The peptide when presented by HLA molecule
CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC The MAGE antigenic peptide is used to treat and diagnose disorders
CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC tumours. The present sequence is human MAGE-A1 epitope presented by HLA-
CC B*4402
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 52; DB 4; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0033;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 2 EADPTGHSY 10

RESULT 80
AAE06852
ID AAE06852 standard; peptide; 10 AA.
XX
AC AAE06852;
XX
DT 16-OCT-2001 (first entry)
XX
DE Human MAGE-A1 antigenic peptide generic sequence.
XX
KW MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Misc-difference 1
FT /label= Unknown
XX
PN WO200153833-A1.
XX
PD 26-JUL-2001.
XX
PF 19-JAN-2001; 2001WO-US002008.
XX
PR 20-JAN-2000; 2000US-0177242P.

PR 25-OCT-2000; 2000US-0243212P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
XX
DR WPI; 2001-488724/53.
XX
PT Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.
XX
PS Claim 3; Page 53; 103pp; English.
XX
CC The invention relates to functional variants and isolated mimetics of a
CC MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC antigenic peptide acts by binding to HLA molecules on tumour cells and
CC stimulating recognition of these cells and thus signalling them to the
CC immune system for destruction. The peptide when presented by HLA molecule
CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC The MAGE antigenic peptide is used to treat and diagnose disorders
CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC tumours. The present sequence is a generic sequence of human MAGE-A1
CC antigenic peptide that is presented by HLA-B44
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 52; DB 4; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0033;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 2 EADPTGHSY 10

RESULT 81
AAY46072
ID AAY46072 standard; peptide; 11 AA.
XX
AC AAY46072;
XX
DT 01-DEC-1999 (first entry)
XX
DE Immunogenic peptide having a human leukocyte antigen binding motif #683.
XX
KW Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA;
KW immune response; T cell activation; major histocompatibility complex;
KW cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer;
KW prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
KW vaccine; immunisation.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9945954-A1.
XX
PD 16-SEP-1999.
XX
PF 13-MAR-1998; 98WO-US005039.
XX
PR 13-MAR-1998; 98WO-US005039.
XX
PA (EPIM-) EPIMMUNE INC.
XX
PI Sette A, Kubo RT, Sidney J, Celis E, Grey HM, Southwood S;
XX
DR WPI; 1999-551214/46.
XX
PT New immunogenic peptides with HLA binding motif, useful in treatment and
PT diagnosis of cancers and viral diseases.
XX
PS Claim 1; Page 55; 150pp; English.
XX
CC AAY45390 to AAY48214 represent specifically claimed immunogenic peptides
CC having a human major histocompatibility complex (MHC) Class I (also known
CC as human leukocyte antigen (HLA)) binding motif. The immunogenic peptides
CC can bind to a specific HLA allele (i.e. HLA-A subtypes HLA-A2.1, A1, A3.2
CC or A24.1 or HLA-B or C) and induce a cytotoxic T cell response against
CC the antigen from which the peptide is derived. Cytotoxic T lymphocytes
CC (CTLs) which destroy antigen-bearing cells are normally induced by an
CC antigen in the form of a peptide fragment bound to a HLA molecule, rather
CC than the intact foreign antigen itself, and are particularly important in
CC tumour rejection and in fighting viral infections. The peptides are
CC therefore useful therapeutically to treat or prevent viral infections and
CC cancers in mammals (especially humans) e.g. prostate cancer, hepatitis B
CC and C, AIDS, and renal carcinoma. They can be administered as vaccines to
CC elicit an immune response in individuals susceptible or otherwise at risk
CC of viral infection or cancer, or used to treat chronic or acute
CC conditions. They are also useful diagnostically, and can be used to
CC induce a cytotoxic T cell response, by contacting a cytotoxic T cell with
CC the peptide e.g. to produce CTLs ex vivo for infusion back into a
CC patient. The polynucleotides encoding the immunogenic peptides are also
CC useful therapeutically and for immunisation as above
XX
SQ Sequence 11 AA;

Query Match 100.0%; Score 52; DB 2; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.0036;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 3 EADPTGHSY 11

RESULT 82
AAR80620
ID AAR80620 standard; protein; 12 AA.
XX
AC AAR80620;
XX
DT 28-FEB-1996 (first entry)
XX
DE Immunogenic peptide of tumour rejection antigen (MAGE-1).
XX
KW Tumour rejection antigen; MAGE-1; monoclonal antibody; MAb; diagnosis;
KW immunoassay; cancer; immunogen; antisera.
XX
OS Homo sapiens.
XX
PN WO9520974-A1.
XX
PD 10-AUG-1995.
XX
PF 05-JAN-1995; 95WO-US000095.
XX
PR 01-FEB-1994; 94US-00190411.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
PA (SLOK) MEMORIAL SLOAN-KETTERING CANCER CENT.
XX
PI Chen Y, Stockert E, Chen Y, Garin-Chesa P, Rettig WJ;
PI Van Der Bruggen P, Boon-Falleur T, Old LJ;
XX
DR WPI; 1995-283606/37.
XX
PT New monoclonal antibody binding specifically to MAGE-1 - useful for

PT diagnosis and monitoring of cancer, also new hybridomas, recombinant MAGE
PT -1 and immunogenic peptide(s).
XX
PS Claim 12; Page 20; 33pp; English.
XX
CC A monoclonal antibody directed against the tumour rejection antigen (MAGE
CC -1) can be used to detect MAGE-1 in samples by standard immunoassay
CC methods for diagnosis and monitoring of cancer etc. The monoclonal
CC antibody is designated MA454 and is produced by the hybridoma deposited
CC as ATCC HBB11540. The monoclonal antibody is specific for MAGE-1, having
CC no reactivity for MAGE-2 or MAGE-3. Peptide fragments of MAGE-1 (See
CC AAR80618-20) may be useful as immunogens for production of the monoclonal
CC antibody and antisera
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 2; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.004;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||
Db 4 EADPTGHSY 12

RESULT 83
AAE06807
ID AAE06807 standard; peptide; 12 AA.
XX
AC AAE06807;
XX
DT 16-OCT-2001 (first entry)
XX
DE Human MAGE-A1 antigenic peptide #1.
XX
KW MAGE-A1 antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW gene therapy; human; tumour rejection antigen; TRA.
XX
OS Homo sapiens.
XX
PN WO200153833-A1.
XX
PD 26-JUL-2001.
XX
PF 19-JAN-2001; 2001WO-US002008.
XX
PR 20-JAN-2000; 2000US-0177242P.
PR 25-OCT-2000; 2000US-0243212P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
XX
DR WPI; 2001-488724/53.
XX
PT Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.
XX
PS Example 1; Page 52; 103pp; English.
XX
CC The invention relates to functional variants and isolated mimetics of a
CC MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC antigenic peptide acts by binding to HLA molecules on tumour cells and
CC stimulating recognition of these cells and thus signalling them to the
CC immune system for destruction. The peptide when presented by HLA molecule
CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC The MAGE antigenic peptide is used to treat and diagnose disorders
CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC tumours. The present sequence is a human MAGE-A1 antigenic peptide
CC presented by HLA-B35
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.004;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||
Db 1 EADPTGHSY 9

RESULT 84
AAY59636
ID AAY59636 standard; peptide; 15 AA.
XX
AC AAY59636;
XX
DT 27-MAR-2000 (first entry)
XX
DE Mage-1 epitope including 5' and 3' flanking regions.
XX
KW Mage-1 tumour antigen; immune response stimulation; anticancer vaccine;
KW toxin-antigen conjugate; breast cancer; ovarian cancer; lung cancer;
KW skin cancer; brain cancer.
XX
OS Synthetic.
XX
PN WO9959627-A2.
XX
PD 25-NOV-1999.
XX
PF 14-MAY-1999; 99WO-US010679.
XX
PR 15-MAY-1998; 98US-0085693P.
XX
PA (GREE/) GREEN A M.
XX
PI Green AM;
XX
DR WPI; 2000-086579/07.
XX
PT Stimulating an immune response.
XX
PS Example; Page 26; 47pp; English.
XX
CC This is the Mage-1 tumour antigen peptide including the 5' and 3'
CC flanking region. This peptide is used in a method for stimulating an
CC immune response in a mammal, through the administration of a toxin-
CC antigen conjugate. The antigen peptide is linked to a toxin such as Shiga
CC -toxin B fragment and can be used to stimulate an immune response to
CC treat an antigen-related state in a mammal. The immune response elicited
CC by the toxin-antigen conjugate involves stimulation of dendritic cells,
CC including Langerhans cells. The antigens are particularly used as a
CC source of epitopes for anticancer vaccines. The cancers may be, e.g.
CC breast, ovarian, lung, skin and brain
XX
SQ Sequence 15 AA;

Query Match 100.0%; Score 52; DB 3; Length 15;
Best Local Similarity 100.0%; Pred. No. 0.0051;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9

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                  |||||||||
Db          4 EADPTGHSY 12

RESULT 85
AAE06813
ID   AAE06813 standard; peptide; 23 AA.
XX
AC   AAE06813;
XX
DT   16-OCT-2001  (first entry)
XX
DE   Human MAGE-A1 antigenic peptide #7.
XX
KW   MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW   tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW   CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW   myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW   gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
XX
OS   Homo sapiens.
XX
PN   WO200153833-A1.
XX
PD   26-JUL-2001.
XX
PF   19-JAN-2001; 2001WO-US002008.
XX
PR   20-JAN-2000; 2000US-0177242P.
PR   25-OCT-2000; 2000US-0243212P.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Luiten R,  Boon-Falleur T,  Van Der Bruggen P,  Stroobant V;
PI   Demotte N,  Schultz E;
XX
DR   WPI; 2001-488724/53.
DR   N-PSDB; AAD12990.
XX
PT   Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT   binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT   diagnosis and treatment of a disorder characterized by expression of MAGE
PT   -A1 or -A3.
XX
PS   Claim 11; Fig 7; 103pp; English.
XX
CC   The invention relates to functional variants and isolated mimetics of a
CC   MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC   of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC   the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC   presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC   antigenic peptide acts by binding to HLA molecules on tumour cells and
CC   stimulating recognition of these cells and thus signalling them to the
CC   immune system for destruction. The peptide when presented by HLA molecule
CC   induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC   The MAGE antigenic peptide is used to treat and diagnose disorders
CC   characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC   e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC   prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC   carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC   tumours. The present sequence is human MAGE-A1 antigenic peptide
CC   presented by HLA-B*4402
XX
SQ   Sequence 23 AA;

  Query Match             100.0%;  Score 52;  DB 4;  Length 23;
  Best Local Similarity   100.0%;  Pred. No. 0.0081;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db         15 EADPTGHSY 23

RESULT 86
AAU85034
ID   AAU85034 standard; peptide; 30 AA.
XX
AC   AAU85034;
XX
DT   08-MAY-2002  (first entry)
XX
DE   Human MAGE-1 segment 11.
XX
KW   Savine; vaccine; cancer; viral infection; HIV; hepatitis C virus;
KW   viral infection; human immunodeficieny virus; melanoma;
KW   bacterial infection; Salmonella; Legionella; parasitic infection;
KW   Trypanosoma; Toxoplasma; Giardia.
XX
OS   Homo sapiens.
XX
PN   WO200190197-A1.
XX
PD   29-NOV-2001.
XX
PF   25-MAY-2001; 2001WO-AU000622.
XX
PR   26-MAY-2000; 2000AU-00007761.
XX
PA   (AUSU ) UNIV AUSTRALIAN NAT.
XX
PI   Thomson SA,  Ramshaw IA;
XX
DR   WPI; 2002-147575/19.
DR   N-PSDB; ABK36854.
XX
PT   New synthetic polypeptides having several different segments of at least
PT   one parent polypeptide linked together differently compared to the
PT   linkage in the parent polypeptide, for inducing immune response against a
PT   pathogen or cancer.
XX
PS   Example 3; Fig 27; 364pp; English.
XX
CC   The invention relates to a new synthetic polypeptide (I) comprising
CC   several different segments of at least one parent polypeptide linked
CC   together in a different relationship relative to their linkage in the
CC   parent polypeptide to impede, abrogate or otherwise alter at least one
CC   function associated with the parent polypeptide and for inducing an
CC   immune response against a pathogen or cancer. Also included are a
CC   synthetic polynucleotide encoding and a computer system for designing the
CC   synthetic polypeptides. The synthetic polypeptides and polynucleotides
CC   are referred to as a Savine. The synthetic polypeptide is useful for
CC   modulating immune responses preferably directed against a pathogen or a
CC   cancer, (e.g., cancers of the lung, breast, ovary, cervix, colon, head
CC   and neck, pancreas, prostate, stomach, bladder, kidney, bone liver,
CC   oesophagus, brain, testicle, uterus), as potentiating agents.
CC   Compositions comprising the polypeptide may be used in the treatment or
CC   prophylaxis against viral (such as infections caused by HIV (human
CC   immunodeficiency virus), hepatitis, influenza, Japanese encephalitis
CC   virus, Epstein-Barr virus and respiratory syncytial virus), bacterial
CC   (e.g., infections caused by Neisseria, Meningococcal, Haemophilus,
CC   Salmonella, Streptococcal, Legionella and Mycobacterium or parasitic
CC   (e.g., infections caused by Plasmodium, Schistosoma, Leishmania,
CC   Trypanosoma, Toxoplasma and Giardia) infections. The present sequence is
CC   a peptide derived from a parent protein used to construct a savine of the
CC   invention
XX
SQ   Sequence 30 AA;

  Query Match             100.0%;  Score 52;  DB 5;  Length 30;
  Best Local Similarity   100.0%;  Pred. No. 0.011;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db         13 EADPTGHSY 21
```

```
RESULT 87
AAG66001
ID   AAG66001 standard; protein; 47 AA.
XX
AC   AAG66001;
XX
DT   27-FEB-2002  (first entry)
XX
DE   ALVAC(1)-MAGE-1/3 minigene polypeptide.
XX
KW   MAGE; tumour-associated antigen; epitope; MAGE-1/3 minigene; vaccine;
KW   cytostatic; cancer; MAGE-1; MAGE-3.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .34
FT                   /note= "MAGE-1 (residues 149-181)"
FT   Peptide         14. .22
FT                   /note= "specifically claimed MAGE-1 epitope"
FT   Cleavage-site   35. .38
FT                   /note= "protease cleavage site"
FT   Peptide         39. .47
FT                   /note= "MAGE-3 (residues 161-169); specifically claimed
FT                   MAGE-3 epitope""
XX
PN   WO200185932-A2.
XX
PD   15-NOV-2001.
XX
PF   07-MAY-2001; 2001WO-CA000646.
XX
PR   10-MAY-2000; 2000US-0202970P.
PR   11-MAY-2000; 2000US-0203578P.
PR   20-OCT-2000; 2000US-0242388P.
XX
PA   (AVET ) AVENTIS PASTEUR LTD.
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Berinstein N,  Tartaglia J,  Tine JA,  Moingeon P,  Boon-Falleur T;
PI   Van Der Bruggen P;
XX
DR   WPI; 2002-049445/06.
DR   N-PSDB; AAI67603, AAI67604.
XX
PT   Immunogenic polypeptide for eliciting MAGE-specific immune response in an
PT   animal for treating cancer, comprises several MAGE-specific antigen
PT   epitopes selected from different members of MAGE protein family.
XX
PS   Claim 7; Fig 2; 52pp; English.
XX
CC   The invention relates to an immunogenic polypeptide comprising a MAGE
CC   (tumour-associated antigen)-specific antigen epitopes selected from
CC   different members of the MAGE protein family. The immunogenic MAGE
CC   polypeptide, encoding nucleotide sequences, host cells and recombinant
CC   virus comprising the nucleic acid sequences are useful for inducing an
CC   MAGE-specific immune response in an animal, and are used for treating
CC   cancer. The present sequence represents a recombinant ALVAC(1)-MAGE-1/3
CC   minigene polypeptide comprising MAGE-specific antigen epitopes from MAGE-
CC   1 and MAGE-3
XX
SQ   Sequence 47 AA;

  Query Match             100.0%;  Score 52;  DB 5;  Length 47;
  Best Local Similarity   100.0%;  Pred. No. 0.018;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db         14 EADPTGHSY 22
```

```
RESULT 88
ABP72588
ID   ABP72588 standard; protein; 81 AA.
XX
AC   ABP72588;
XX
DT   29-MAY-2003  (first entry)
XX
DE   Melanoma poly-epitope.
XX
KW   Cytotoxic T lymphocyte; epitope; melanoma; mel3; tyrosinase; melan-A;
KW   MAGE-1; MAGE-3; nucleoprotein; vaccine; immunostimulant.
XX
OS   Unidentified.
OS   Influenza virus.
OS   Chimeric.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .9
FT                   /note= "Tyrosinase (aa1-9)"
FT   Region          10. .19
FT                   /note= "Melan-A (aa26-35)"
FT   Region          20. .28
FT                   /note= "Tyrosinase (aa369-377)"
FT   Region          29. .30
FT                   /note= "Linker"
FT   Region          31. .39
FT                   /note= "Mage-3 (aa167-175)"
FT   Region          40. .48
FT                   /note= "Mage-3 (aa271-279)"
FT   Region          49. .57
FT                   /note= "Mage-1 (aa161-169)"
FT   Region          58. .59
FT                   /note= "Linker"
FT   Region          60. .72
FT                   /note= "NY-ESO-1 (aa155-167)"
FT   Region          73. .81
FT                   /note= "Influenza nucleoprotein (aa366-374)"
XX
PN   WO2003011331-A2.
XX
PD   13-FEB-2003.
XX
PF   30-JUL-2002; 2002WO-GB003496.
XX
PR   30-JUL-2001; 2001GB-00018532.
XX
PA   (ISIS-) ISIS INNOVATION LTD.
XX
PI   Cerundolo V,  Palmowski MJ,  Man-Lik Choi E;
XX
DR   WPI; 2003-248117/24.
DR   N-PSDB; ABZ81674.
XX
PT   Use of epitopes in preparing a medicament for inducing an immune response
PT   in an individual or for boosting an immune response in an individual that
PT   has been previously exposed to at least one of the epitopes.
XX
PS   Disclosure; Page 64; 80pp; English.
XX
CC   The present sequence is of a melanoma poly-epitope encoded by the mel3
CC   cassette (see ABZ81674) and comprising a string of melanoma epitopes,
CC   i.e. 5 HLA-A2 epitopes (tyrosinase amino acids 1-9, melan-A (26-35),
CC   tyrosinase (369-377), MAGE-3 (271-279) and NY-ESO-1 (155-167)) and 2 HLA-
CC   A1 epitopes (MAGE-3 (167-175) and MAGE-1 (161-169)), plus a C-terminal
CC   influenza nucleoprotein epitope. The use of plasmid, vaccinia virus,
CC   modified vaccinia Ankara virus and Semliki Forest virus vectors for melA
CC   demonstrated that prime-boost vaccinations resulted in the expansion of a
CC   narrow CTL repertoire. At the boosting step, cytotoxic T lymphocyte (CTL)
CC   competition for recognition of cells presenting the melanoma poly-epitope
CC   construct skewed the response towards those CTLs expanded more
CC   efficiently during priming. In contrast, simultaneous expansion of CTL
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CC   specific to dominant and subdominant determinants was obtained when
CC   antigen-presenting cells (APC) presented the epitopes separately during
CC   the boosting phase. Thus, the invention provides an improved prime-boost
CC   vaccination regimen in which the epitopes in the boosting phase are
CC   administered individually, i.e. held on separate peptide constructs. The
CC   APC is preferably a dendritic cell or a lymphocyte, and the epitopes may
CC   be derived from one or more pathogens or from a tumour cell
XX
SQ   Sequence 81 AA;

  Query Match             100.0%;  Score 52;  DB 6;  Length 81;
  Best Local Similarity   100.0%;  Pred. No. 0.032;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db         49 EADPTGHSY 57


RESULT 89
ABP72587
ID   ABP72587 standard; protein; 81 AA.
XX
AC   ABP72587;
XX
DT   29-MAY-2003  (first entry)
XX
DE   Melanoma poly-epitope.
XX
KW   Cytotoxic T lymphocyte; epitope; melanoma; mel3; tyrosinase; melan-A;
KW   MAGE-1; MAGE-3; nucleoprotein; vaccine; immunostimulant;
KW   DNA immunisation.
XX
OS   Unidentified.
OS   Influenza virus.
OS   Chimeric.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .9
FT                   /note= "Tyrosinase (aa1-9)"
FT   Region          10. .19
FT                   /note= "Melan-A (aa26-35)"
FT   Region          20. .28
FT                   /note= "Tyrosinase (aa369-377)"
FT   Region          29. .30
FT                   /note= "Linker"
FT   Region          31. .39
FT                   /note= "Mage-3 (aa167-175)"
FT   Region          40. .48
FT                   /note= "Mage-3 (aa271-279)"
FT   Region          49. .57
FT                   /note= "Mage-1 (aa161-169)"
FT   Region          58. .59
FT                   /note= "Linker"
FT   Region          60. .72
FT                   /note= "NY-ESO-1 (aa155-167)"
FT   Region          73. .81
FT                   /note= "Influenza nucleoprotein (aa366-374)"
XX
PN   WO2003011332-A1.
XX
PD   13-FEB-2003.
XX
PF   30-JUL-2002; 2002WO-GB003497.
XX
PR   30-JUL-2001; 2001GB-00018532.
XX
PA   (ISIS-) ISIS INNOVATION LTD.
XX
PI   Cerundolo V,  Palmowski MJ,  Man-Lik Choi E;
XX
DR   WPI; 2003-239473/23.
DR   N-PSDB; ABZ81673.
XX
PT   Use of epitopes for preparing a medicament, comprising individual
PT   vehicles, for boosting an immune response in an individual previously
PT   exposed to at least one of the epitopes.
XX
PS   Disclosure; Page 59; 78pp; English.
XX
CC   The present sequence is that of a melanoma poly-epitope encoded by the
CC   melA cassette (see ABZ81673) and comprising 5 HLA-A2 epitopes (tyrosinase
CC   amino acids 1-9, melan-A (26-35), tyrosinase (369-377), MAGE-3 (271-279)
CC   and NY-ESO-1 (155-167)) and 2 HLA-A1 epitopes (MAGE-3 (167-175) and MAGE-
CC   1 (161-169)), plus a C-terminal influenza nucleoprotein epitope. The use
CC   of plasmid, vaccinia virus, modified vaccinia Ankara (MVA) virus and
CC   Semliki Forest virus vectors for melA demonstrated that prime-boost
CC   vaccinations resulted in the expansion of a narrow CTL repertoire. At the
CC   boosting step, CTL competition for recognition of cells presenting the
CC   melanoma poly-epitope construct skewed the response towards those CTLs
CC   expanded more efficiently during priming. In contrast, simultaneous
CC   expansion of CTL specific to dominant and subdominant determinants was
CC   obtained when antigen-presenting cells (APCs) presented the epitopes
CC   separately during the boosting phase. This was accomplished by injecting
CC   a mixture of recombinant viruses each encoding a separate antigen, and
CC   can also be achieved by injecting a mixture of APCs presenting the
CC   epitopes separately. Thus, the invention provides an improved prime-boost
CC   vaccination regimen in which individual vehicles are used to boost an
CC   immune response in an individual previously exposed to at least one of
CC   the epitopes (claimed)
XX
SQ   Sequence 81 AA;

  Query Match             100.0%;  Score 52;  DB 6;  Length 81;
  Best Local Similarity   100.0%;  Pred. No. 0.032;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db         49 EADPTGHSY 57


RESULT 90
AAR70909
ID   AAR70909 standard; protein; 309 AA.
XX
AC   AAR70909;
XX
DT   25-MAR-2003  (revised)
DT   09-OCT-1995  (first entry)
XX
DE   Human melanoma antigen MAGE-1.
XX
KW   Human melanoma antigen; MAGE-1; vaccines; MAGE associated tumours;
KW   HLA-restricted cytotoxic T-lymphocyte activity.
XX
OS   Homo sapiens.
XX
PN   WO9504542-A1.
XX
PD   16-FEB-1995.
XX
PF   02-AUG-1994;   94WO-US008721.
XX
PR   06-AUG-1993;   93US-00103623.
XX
PA   (CYTE-) CYTEL CORP.
XX
PI   Fikes JD,  Livingston BD,  Sette AD,  Sidney JC;
XX
DR   WPI; 1995-090681/12.
DR   N-PSDB; AAQ85435.
XX
PT   Human melanoma antigen, MAGE-1, peptide(s) - useful for stimulating
PT   immune response against melanoma.
XX
```

```
PS   Example 1; Fig 1; 59pp; English.
XX
CC   AAQ85435 encodes AAR70909 human melanoma antigen MAGE-1, it was used to
CC   produce the C-terminal MAGE-1 peptides described in AAR70915 to AAR70969.
CC   These peptides are useful for defining epitopes that engender a HLA-
CC   restricted cytotoxic lymphocyte activity against MAGE-1 antigens.
CC   Compsns. containing these peptides can be administered, as a vaccine to
CC   patients susceptable to MAGE associated tumours, e.g. melanomas. (Updated
CC   on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 309 AA;

  Query Match           100.0%;  Score 52;  DB 2;  Length 309;
  Best Local Similarity  100.0%;  Pred. No. 0.14;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db        161 EADPTGHSY 169


RESULT 91
AAW81548
ID   AAW81548 standard; protein; 309 AA.
XX
AC   AAW81548;
XX
DT   01-MAR-1999  (first entry)
XX
DE   Tumour rejection antigen precursor MAGE-A1.
XX
KW   MAGE-A1; human; tumour rejection antigen precursor; TRAP; therapy;
KW   diagnosis.
XX
OS   Homo sapiens.
XX
PN   WO9849184-A1.
XX
PD   05-NOV-1998.
XX
PF   24-APR-1998;   98WO-US008493.
XX
PR   25-APR-1997;   97US-00845528.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Lucas S,  De Smet C,  Boon-Falleur T;
XX
DR   WPI; 1999-024041/02.
DR   N-PSDB; AAV69719.
XX
PT   Tumour rejection antigen precursors - used for determining presence of
PT   cytolytic T cells specific for complexes of a human leukocyte antigen.
XX
PS   Disclosure; Page 50-51; 84pp; English.
XX
CC   This is the amino acid sequence of human tumour rejection antigen
CC   precursor (TRAP) MAGE-A1. MAGE-A1 cDNA (see AAV69719) shows homology to
CC   novel human MAGE-C1 cDNA (see AAV69720). MAGE-C1 (see AAW81546) is a
CC   novel member of the MAGE family that may be recognised by cytotoxic T
CC   cells, leading to lysis of the tumour cells which express it. It is
CC   expressed in a variety of tumours and in normal testis cells, but not by
CC   other normal cells. The invention provides MACE-C1 and MACE-C2 nucleic
CC   acids and polypeptides, useful e.g. in a claimed method for determining
CC   the presence of cytolytic T cells specific for complexes of a human
CC   leukocyte antigen (HLA)
XX
SQ   Sequence 309 AA;

  Query Match           100.0%;  Score 52;  DB 2;  Length 309;
  Best Local Similarity  100.0%;  Pred. No. 0.14;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db        161 EADPTGHSY 169


RESULT 92
AAB31290
ID   AAB31290 standard; protein; 309 AA.
XX
AC   AAB31290;
XX
DT   20-APR-2001  (first entry)
XX
DE   Amino acid sequence of human MAGE-A1 HLA class II-binding protein.
XX
KW   MAGE-A1; HLA; human leukocyte antigen; CD4+ T lymphocyte; cancer;
KW   MAGE-A1 HLA class II-binding protein; vaccine.
XX
OS   Homo sapiens.
XX
PN   WO200078806-A1.
XX
PD   28-DEC-2000.
XX
PF   14-JUN-2000; 2000WO-US016287.
XX
PR   18-JUN-1999;   99US-00336091.
XX
PA   (LUDW-) LUDWIG INST CANCER RES.
XX
PI   Van Snick J,  Lethe B,  Chaux P,  Boon-Falleur T,  Van Der Bruggen P;
XX
DR   WPI; 2001-102698/11.
DR   N-PSDB; AAF24676.
XX
PT   Novel MAGE-A1 human leukocyte antigen class II peptides which bind to and
PT   are presented to the class II molecules, useful for inducing immune
PT   response and treating cancers characterized by expression of MAGE-A1.
XX
PS   Claim 1; Page 63; 78pp; English.
XX
CC   The present sequence represents a human MAGE-A1 HLA (human leukocyte
CC   antigen) class II-binding protein. Peptides derived from the MAGE-A1 HLA
CC   binding protein stimulate the activity and proliferation of CD4+ T
CC   lymphocytes. The MAGE-A1 HLA binding protein is useful as a diagnostic
CC   agent for diagnosing a disorder characterized by expression of MAGE-A1.
CC   The protein is used for treating a disorder characterized by expression
CC   of MAGE-A1 such as cancers e.g. melanomal, squamous cell carcinomas,
CC   colorectal carcinomas, osteosarcomas, and lymphocytic leukemias. Peptides
CC   derived from the MAGE-A1 HLA binding protein are useful in the production
CC   of anti-tumour vaccines
XX
SQ   Sequence 309 AA;

  Query Match           100.0%;  Score 52;  DB 4;  Length 309;
  Best Local Similarity  100.0%;  Pred. No. 0.14;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 EADPTGHSY 9
              |||||||||
Db        161 EADPTGHSY 169


RESULT 93
AAE06806
ID   AAE06806 standard; protein; 309 AA.
XX
AC   AAE06806;
XX
DT   16-OCT-2001  (first entry)
XX
DE   Human MAGE-A1 protein.
XX
```

KW MAGE antigenic peptide; Human leukocyte antigen; HLA-B35; HLA-B44;
KW tumour cell; immunostimulant; antigen presentation; cancer; melanoma;
KW CD8+ cytotoxic T lymphocyte; colorectal; prostate; gastric carcinoma;
KW myeloma; brain tumour; sarcoma; seminoma; ovarian tumour; cytostatic;
KW gene therapy; human; MAGE-A1; tumour rejection antigen; TRA.
XX
OS Homo sapiens.
XX
PN WO200153833-A1.
XX
PD 26-JUL-2001.
XX
PF 19-JAN-2001; 2001WO-US002008.
XX
PR 20-JAN-2000; 2000US-0177242P.
PR 25-OCT-2000; 2000US-0243212P.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
XX
PI Luiten R, Boon-Falleur T, Van Der Bruggen P, Stroobant V;
PI Demotte N, Schultz E;
XX
DR WPI; 2001-488724/53.
DR N-PSDB; AAD12987.
XX
PT Functional variants and isolated mimetics of a MAGE-A1 HLA-B35 or HLA-B44
PT binding peptide, or of a MAGE-A3 HLA-B35 binding peptide, used in
PT diagnosis and treatment of a disorder characterized by expression of MAGE
PT -A1 or -A3.
XX
PS Claim 2; Page 86-87; 103pp; English.
XX
CC The invention relates to functional variants and isolated mimetics of a
CC MAGE-A1 human leukocyte antigen (HLA)-B35 or HLA-B44 binding peptide, or
CC of a MAGE-A3 HLA-B35 binding peptide, identified by methods described in
CC the specification. MAGE genes encode tumour rejection antigens (TRAs)
CC presented to T lymphocytes by HLA-B35 and HLA-B44 molecules. The MAGE
CC antigenic peptide acts by binding to HLA molecules on tumour cells and
CC stimulating recognition of these cells and thus signalling them to the
CC immune system for destruction. The peptide when presented by HLA molecule
CC induces the activation and stimulation of CD8+ cytotoxic T lymphocytes.
CC The MAGE antigenic peptide is used to treat and diagnose disorders
CC characterised by expression of MAGE-A1 or -A3. Disorders include cancers
CC e.g melanomas, oesophageal, lung, head and neck, breast, colorectal,
CC prostate, renal, bladder, hepatocellular, papillary thyroid and gastric
CC carcinomas, myelomas, brain tumours, sarcomas, seminomas, and ovarian
CC tumours. The present sequence is human MAGE-A1 protein
XX
SQ Sequence 309 AA;

Query Match 100.0%; Score 52; DB 4; Length 309;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 161 EADPTGHSY 169

RESULT 94
AAU84814
ID AAU84814 standard; protein; 309 AA.
XX
AC AAU84814;
XX
DT 08-MAY-2002 (first entry)
XX
DE Human MAGE-1 consensus sequence.
XX
KW Savine; vaccine; cancer; viral infection; HIV; hepatitis C virus;
KW viral infection; human immunodeficieny virus; melanoma;
KW bacterial infection; Salmonella; Legionella; parasitic infection;
KW Trypanosoma; Toxoplasma; Giardia.
XX
OS Homo sapiens.
XX
PN WO200190197-A1.
XX
PD 29-NOV-2001.
XX
PF 25-MAY-2001; 2001WO-AU000622.
XX
PR 26-MAY-2000; 2000AU-00007761.
XX
PA (AUSU) UNIV AUSTRALIAN NAT.
XX
PI Thomson SA, Ramshaw IA;
XX
DR WPI; 2002-147575/19.
XX
PT New synthetic polypeptides having several different segments of at least
PT one parent polypeptide linked together differently compared to the
PT linkage in the parent polypeptide, for inducing immune response against a
PT pathogen or cancer.
XX
PS Example 3; Fig 27; 364pp; English.
XX
CC The invention relates to a new synthetic polypeptide (I) comprising
CC several different segments of at least one parent polypeptide linked
CC together in a different relationship relative to their linkage in the
CC parent polypeptide to impede, abrogate or otherwise alter at least one
CC function associated with the parent polypeptide and for inducing an
CC immune response against a pathogen or cancer. Also included are a
CC synthetic polynucleotide encoding and a computer system for designing the
CC synthetic polypeptides. The synthetic polypeptides and polynucleotides
CC are referred to as a Savine. The synthetic polypeptide is useful for
CC modulating immune responses preferably directed against a pathogen or a
CC cancer, (e.g., cancers of the lung, breast, ovary, cervix, colon, head
CC and neck, pancreas, prostate, stomach, bladder, kidney, bone liver,
CC oesophagus, brain, testicle, uterus), as potentiating agents.
CC Compositions comprising the polypeptide may be used in the treatment or
CC prophylaxis against viral (such as infections caused by HIV (human
CC immunodeficiency virus), hepatitis, influenza, Japanese encephalitis
CC virus, Epstein-Barr virus and respiratory syncytial virus), bacterial
CC (e.g., infections caused by Neisseria, Meningococcal, Haemophilus,
CC Salmonella, Streptococcal, Legionella and Mycobacterium or parasitic
CC (e.g., infections caused by Plasmodium, Schistosoma, Leishmania,
CC Trypanosoma, Toxoplasma and Giardia) infections. The present sequence is
CC a consensus sequence for a parent protein used to design a savine of the
CC invention
XX
SQ Sequence 309 AA;

Query Match 100.0%; Score 52; DB 5; Length 309;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 161 EADPTGHSY 169

RESULT 95
ABP74195
ID ABP74195 standard; protein; 309 AA.
XX
AC ABP74195;
XX
DT 03-FEB-2003 (first entry)
XX
DE Human MAGE-1 protein SEQ ID NO:71.
XX
KW Human; epitope; vaccine; immunotherapeutic; cytostatic; immunogenicity;
KW T cell.
XX
OS Homo sapiens.

XX
PN WO200281646-A2.
XX
PD 17-OCT-2002.
XX
PF 04-APR-2002; 2002WO-US011101.
XX
PR 06-APR-2001; 2001US-0282211P.
PR 07-NOV-2001; 2001US-0337017P.
PR 07-MAR-2002; 2002US-0363210P.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Simard JJL, Diamond DC, Liu L, Xie Z;
XX
DR WPI; 2003-067518/06.
DR N-PSDB; ABQ83847.
XX
PT Novel epitopes useful as vaccines, comprises peptides or nucleic acid
PT encoding the peptides, that are useful epitopes of target-associated
PT antigens.
XX
PS Claim 1; Page 156; 352pp; English.
XX
CC The present invention describes an isolated epitope (I) and an epitope
CC cluster. Also described is a vaccine or immunotherapeutic composition
CC (VC) comprising (I). (I) has cytostatic activity. VC is useful for
CC treating an animal, by administering to an animal the vaccine or
CC immunotherapeutic composition. VC is also useful for evaluating
CC immunogenicity of a vaccine or immunotherapeutic composition, by
CC administering VC to an HLA-transgenic animal and evaluating
CC immunogenicity based on a characteristic of the animal, or by in vitro
CC primary stimulation of a T cell and evaluating immunogenicity. (I) is
CC useful for determining specific T cell frequency, by contacting T cells
CC with a MHC-peptide complex, and further comprises ELISPOT analysis,
CC limiting dilution analysis, flow cytometry, in situ hybridisation and/or
CC polymerase chain reaction (PCR). ABQ83843 to ABQ83858 and ABP74128 to
CC ABP74713 represent sequences used in the exemplification of the present
CC invention
XX
SQ Sequence 309 AA;

Query Match 100.0%; Score 52; DB 6; Length 309;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 161 EADPTGHSY 169

RESULT 96
ABU08930
ID ABU08930 standard; protein; 309 AA.
XX
AC ABU08930;
XX
DT 05-JUN-2003 (first entry)
XX
DE Human tumour rejection antigen precursor, MAGE-A1.
XX
KW TRAP; tumour rejection antigen precursor; cytolytic T-cell; CTL; tumour;
KW seminoma; bladder transitional-cell carcinoma; NSCLC; adaptor;
KW head-and-neck squamous-cell carcinoma; breast carcinoma; sarcoma;
KW cutaneous melanoma; nonsmall cell lung cancer; MAGE-A1; human.
XX
OS Homo sapiens.
XX
PN US2002176865-A1.
XX
PD 28-NOV-2002.
XX
PF 01-MAR-2002; 2002US-00085108.
XX
PR 25-APR-1997; 97US-00845528.
PR 24-APR-1998; 98US-00066281.
PR 17-DEC-1999; 99US-00468433.
PR 09-FEB-2000; 2000US-00501104.
XX
PA (LUCA/) LUCAS S.
PA (BOON/) BOON-FALLEUR T.
XX
PI Lucas S, Boon-Falleur T;
XX
DR WPI; 2003-328468/31.
DR N-PSDB; ABX93696.
XX
PT Novel isolated nucleic acid encoding tumor rejection antigen precursor
PT MAGE-C3, MAGE-B5, or MAGE-B6, useful as diagnostic probes to determine
PT presence of abnormal e.g., tumor cells expressing MAGE-C1, MAGE-B5 or
PT MAGE-B6.
XX
PS Disclosure; Fig 2; 59pp; English.
XX
CC The invention relates to an isolated nucleic acid molecule which encodes
CC a tumour rejection antigen precursor (TRAP) having an amino acid sequence
CC of a TRAP encoded by a fully defined MAGE-C3, MAGE-B5, or MAGE-B6
CC polynucleotide sequence. Also disclosed is a method which is useful for
CC determining presence of cytolytic T-cells specific for complexes of human
CC leukocyte antigen (HLA) and a peptide derived from the nucleic acid in a
CC cytotoxic T-lymphocyte (CTL)-containing sample. The nucleic acid is
CC useful as a diagnostic probe to determine the presence of abnormal
CC (tumour) cells such as seminoma, bladder transitional-cell carcinoma,
CC head-and-neck squamous-cell carcinoma, breast carcinoma, sarcoma,
CC cutaneous melanoma or nonsmall cell lung cancer (NSCLC) which express
CC MAGE-C1, MAGE-B5 or MAGE-B6. The nucleic acid is useful for diagnosing a
CC disorder characterised by expression of MAGE-C1, MAGE-B5 or MAGE-B6 TRAPs
CC or tumour rejection antigens (TRAs). The present sequence represents the
CC amino acid sequence of the human tumour rejection antigen precursor, MAGE
CC -A1
XX
SQ Sequence 309 AA;

Query Match 100.0%; Score 52; DB 6; Length 309;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 161 EADPTGHSY 169

RESULT 97
ADC09573
ID ADC09573 standard; protein; 309 AA.
XX
AC ADC09573;
XX
DT 18-DEC-2003 (first entry)
XX
DE MAGE-1 protein #SEQ ID 71.
XX
KW Epitope; immunological; vaccine;
KW major histocompatibility complex class I; MHC class I; cancer;
KW immunisation.
XX
OS Unidentified.
XX
PN WO2003008537-A2.
XX
PD 30-JAN-2003.
XX
PF 29-MAR-2002; 2002WO-US010189.
XX
PR 06-APR-2001; 2001US-0282211P.
PR 07-NOV-2001; 2001US-0337017P.

PR 07-MAR-2002; 2002US-0363210P.
XX
PA (CTLI-) CTL IMMUNOTHERAPIES CORP.
XX
PI Simard JJL, Diamond DC, Liu L, Xie Z;
XX
DR WPI; 2003-248010/24.
XX
PT Epitope having high affinity for major histocompatibility complex class I
PT useful for treating an animal, evaluating immunogenicity of a vaccine or
PT therapeutic composition and for diagnosing a disease.
XX
PS Claim 1; SEQ ID NO 71; 239pp; English.
XX
CC The invention relates to an isolated epitope polypeptide that has high
CC affinity for major histocompatibility complex (MHC) class I, and an
CC epitope cluster comprising the polypeptide. Also disclosed is a vaccine
CC or immunotherapeutic composition containing an epitope of the invention.
CC Compositions of the invention may be used in the treatment of cancer. The
CC method can be combined with a radiation therapy, chemotherapy,
CC biochemotherapy or surgery. The composition is also useful for evaluating
CC immunogenicity of a vaccine or immunotherapeutic compound. Multimeric MHC
CC -peptide complexes of the invention are useful for determining specific T
CC cell frequency. This method is useful for evaluating immunological
CC response, by performing the method prior to and subsequent to an
CC immunisation step. Compositions of the invention are useful for
CC diagnosing a disease. The current sequence represents an epitope of the
CC invention with high affinity for MHC class I.
XX
SQ Sequence 309 AA;

Query Match 100.0%; Score 52; DB 7; Length 309;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 161 EADPTGHSY 169

RESULT 98
AAO19742
ID AAO19742 standard; protein; 310 AA.
XX
AC AAO19742;
XX
DT 11-AUG-2003 (first entry)
XX
DE Wild-type MAGE1 protein.
XX
KW Stabilised mRNA; translation optimised; vaccine; tissue repair;
KW sequence modification determination; gene therapy; cytostatic; virucide;
KW antibacterial; protozoacide; nootropic; neuroprotective; infection;
KW antiparkinsonian; immunostimulant; cancer; MAGE1 protein.
XX
OS Unidentified.
XX
PN WO200298443-A2.
XX
PD 12-DEC-2002.
XX
PF 05-JUN-2002; 2002WO-EP006180.
XX
PR 05-JUN-2001; 2001DE-01027283.
XX
PA (VMUE/) VON DER MUELBE F.
XX
PI Von Der Muelbe F, Hoerr I, Pascolo S;
XX
DR WPI; 2003-148621/14.
DR N-PSDB; ABZ69107.
XX
PT Composition containing mRNA modified for optimal translation and
PT stability, useful for treating e.g. tumors or infections, comprises
PT increased G/C content and fewer rare codons.
XX
PS Disclosure; Fig 2B; 75pp; German.
XX
CC The present invention relates to a pharmaceutical composition containing
CC at least one modified RNA encoding a biologically active or antigenic
CC protein. The RNA is modified to optimise translation of the sequence. The
CC compositions are used for vaccination against a wide range of infectious
CC diseases (viral, bacterial or protozoal) or cancer, or for tissue
CC regeneration, e.g. in cases of Alzheimer's or Parkinson's diseases and
CC arthritis, but also to express proteins such as dystrophins, chloride ion
CC channels (for treating cystic fibrosis) and enzymes (either for treating
CC metabolic disorders or for synthesis of neurotransmitters such as
CC dopamine). The present sequence is the wild-type MAGE1 protein
XX
SQ Sequence 310 AA;

Query Match 100.0%; Score 52; DB 6; Length 310;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 160 EADPTGHSY 168

RESULT 99
AAY06592
ID AAY06592 standard; protein; 445 AA.
XX
AC AAY06592;
XX
DT 26-OCT-1999 (first entry)
XX
DE CLYTA-MAGE-1-His fusion protein.
XX
KW MAGE-1; CLYTA-MAGE-1-His; fusion protein; tumour; melanoma;
KW breast cancer; bladder cancer; lung cancer; colon cancer;
KW head and squamous cell carcinoma; oesophagus carcinoma; vaccine; human.
XX
OS Streptococcus pneumoniae.
OS Homo sapiens.
OS Synthetic.
OS Chimeric.
XX
PN WO9940188-A2.
XX
PD 12-AUG-1999.
XX
PF 02-FEB-1999; 99WO-EP000660.
XX
PR 05-FEB-1998; 98GB-00002543.
PR 06-FEB-1998; 98GB-00002650.
XX
PA (SMIK) SMITHKLINE BEECHAM BIOLOGICALS.
XX
PI Cabezon Silva T, Cohen J, Slaoui MM, Vinals Bassols C;
XX
DR WPI; 1999-494293/41.
DR N-PSDB; AAX87593.
XX
PT New protein derivatives used in cancer vaccine therapy for treating a
PT range of cancers including melanomas, carcinomas and cancers of breast.
XX
PS Example 9; Page 69-70; 72pp; English.
XX
CC The present sequence represents a fusion protein composed of the C-
CC terminal portion of the Streptococcus pneumoniae LYTA protein (CLYTA),
CC the human MAGE-1 tumour-associated antigen and a hexahistidine tail. A
CC vector designed for recombinant expression of the fusion protein in
CC Escherichia coli is provided. The CLYTA moiety provides expression of
CC soluble fusion protein, facilitates affinity purification, and also acts

CC as a T-helper epitope. The invention relates to MAGE proteins fused to an
CC immunological fusion partner, e.g. CLYTA-MAGE-1-His. These novel fusion
CC proteins provide vaccines for immunotherapy of melanomas or other MAGE-
CC associated tumours like breast, bladder, lung and non-small cell lung
CC cancer, head and squamous cell carcinoma, colon carcinoma and oesophagus
CC carcinoma
XX
SQ Sequence 445 AA;

Query Match 100.0%; Score 52; DB 2; Length 445;
Best Local Similarity 100.0%; Pred. No. 0.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 288 EADPTGHSY 296

RESULT 100
AAY06590
ID AAY06590 standard; protein; 446 AA.
XX
AC AAY06590;
XX
DT 26-OCT-1999 (first entry)
XX
DE Lipoprotein D-MAGE-1-His fusion protein.
XX
KW MAGE-1; lipoprotein D; LPD-MAGE-1-His; fusion protein; tumour; melanoma;
KW breast cancer; bladder cancer; lung cancer;
KW head and squamous cell carcinoma; colon cancer; oesophagus carcinoma;
KW vaccine; human.
XX
OS Haemophilus influenzae.
OS Homo sapiens.
OS Synthetic.
OS Chimeric.
XX
PN WO9940188-A2.
XX
PD 12-AUG-1999.
XX
PF 02-FEB-1999; 99WO-EP000660.
XX
PR 05-FEB-1998; 98GB-00002543.
PR 06-FEB-1998; 98GB-00002650.
XX
PA (SMIK) SMITHKLINE BEECHAM BIOLOGICALS.
XX
PI Cabezon Silva T, Cohen J, Slaoui MM, Vinals Bassols C;
XX
DR WPI; 1999-494293/41.
DR N-PSDB; AAX87591.
XX
PT New protein derivatives used in cancer vaccine therapy for treating a
PT range of cancers including melanomas, carcinomas and cancers of breast.
XX
PS Example 6; Page 67-68; 72pp; English.
XX
CC The present sequence represents a novel fusion protein composed of
CC lipidated protein D (LPD) of Haemophilus influenzae B, the human MAGE-1
CC tumour-associated antigen and a hexahistidine tail. The invention relates
CC to MAGE proteins fused to an immunological fusion partner such as LPD.
CC The LPD moiety provides the fusion protein with additional exogenous T-
CC cell epitopes and also increase expression levels in E. coli. The lipid
CC tail ensures optimal presentation of the antigen to antigen-presenting
CC cells. The affinity tag facilitates purification. The novel fusion
CC proteins provide vaccines for immunotherapy of melanomas or other MAGE-
CC associated tumours like breast, bladder, lung and non-small cell lung
CC cancer, head and squamous cell carcinoma, colon carcinoma and oesophagus
CC carcinoma
XX
SQ Sequence 446 AA;

Query Match 100.0%; Score 52; DB 2; Length 446;
Best Local Similarity 100.0%; Pred. No. 0.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
|||||||||
Db 289 EADPTGHSY 297

RESULT 101
ABR57354
ID ABR57354 standard; protein; 1052 AA.
XX
AC ABR57354;
XX
DT 09-SEP-2003 (first entry)
XX
DE MatDC16-C-gamma-4-MAGE-A1 amino acid sequence.
XX
KW Antigen presenting cell; vaccination; nootropic; neuroprotective;
KW antiarteriosclerotic; cytostatic; antidiabetic; hepatotropic;
KW antiinflammatory; antiparasitic; fungicide; antibacterial; virucide;
KW vaccine; Alzheimer's disease; atherosclerosis; cancer; diabetes;
KW hepatitis; infection.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 546
FT /note= "unspecified"
XX
PN WO2003046011-A1.
XX
PD 05-JUN-2003.
XX
PF 30-NOV-2001; 2001WO-EP014255.
XX
PR 30-NOV-2001; 2001WO-EP014255.
XX
PA (CRUC-) CRUCELL HOLLAND BV.
XX
PI Germeraad W;
XX
DR WPI; 2003-493401/46.
XX
PT New conjugate for targeting antigen presenting cells, useful for
PT preventing, retardating or treating e.g., Alzheimer's disease,
PT atherosclerosis, cancer, diabetes, hepatitis or fungal, bacterial or
PT viral infections.
XX
PS Disclosure; Fig 2; 54pp; English.
XX
CC The present invention describes a conjugate (I) for targeting antigen
CC presenting cells (APCs) comprising at least one antigenic moiety
CC conjugated to a targeting moiety that is capable of binding to a cell
CC surface structure of an APC, and upon binding, inducing a cytotoxic T
CC lymphocyte (CTL) and T-helper response. Also described: (1) a nucleic
CC acid sequence encoding the antigenic or targeting moiety; (2) an
CC expression vector comprising the nucleic acid sequence, operably linked
CC to expression sequences for the APC; (3) a host cell transformed or
CC transfected using the nucleic acid or expression vector; (4) a method for
CC producing (I); (5) a method for generating an APC, capable of eliciting
CC an immune response via MHC classes I and II presentation of processed
CC antigen fragments; and (6) a pharmaceutical composition comprising (I) or
CC the APC. (I) has nootropic, neuroprotective, virucide,
CC antiarteriosclerotic, cytostatic, antidiabetic, hepatotropic, fungicide,
CC antiinflammatory, antiparasitic and antibacterial activities, and can be
CC used in vaccines. The conjugate (I) or APC can be used for preventing,
CC retardating or treating e.g., Alzheimer's disease, atherosclerosis,
CC cancer, diabetes, hepatitis or parasitic, fungal, bacterial or viral
CC infections. The present sequence represents a MatDC16-C-gamma-4-MAGE-A1
CC amino acid sequence, which is used in the exemplification of the present

CC invention
XX
SQ Sequence 1052 AA;

Query Match 100.0%; Score 52; DB 6; Length 1052;
Best Local Similarity 100.0%; Pred. No. 0.52;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 904 EADPTGHSY 912

RESULT 102
AAU85130
ID AAU85130 standard; protein; 3541 AA.
XX
AC AAU85130;
XX
DT 08-MAY-2002 (first entry)
XX
DE Human melanoma specific savine.
XX
KW Savine; vaccine; cancer; viral infection; HIV; hepatitis C virus;
KW viral infection; human immunodeficieny virus; melanoma;
KW bacterial infection; Salmonella; Legionella; parasitic infection;
KW Trypanosoma; Toxoplasma; Giardia.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200190197-A1.
XX
PD 29-NOV-2001.
XX
PF 25-MAY-2001; 2001WO-AU000622.
XX
PR 26-MAY-2000; 2000AU-00007761.
XX
PA (AUSU) UNIV AUSTRALIAN NAT.
XX
PI Thomson SA, Ramshaw IA;
XX
DR WPI; 2002-147575/19.
DR N-PSDB; ABK36950.
XX
PT New synthetic polypeptides having several different segments of at least
PT one parent polypeptide linked together differently compared to the
PT linkage in the parent polypeptide, for inducing immune response against a
PT pathogen or cancer.
XX
PS Example 3; Fig 27; 364pp; English.
XX
CC The invention relates to a new synthetic polypeptide (I) comprising
CC several different segments of at least one parent polypeptide linked
CC together in a different relationship relative to their linkage in the
CC parent polypeptide to impede, abrogate or otherwise alter at least one
CC function associated with the parent polypeptide and for inducing an
CC immune response against a pathogen or cancer. Also included are a
CC synthetic polynucleotide encoding and a computer system for designing the
CC synthetic polypeptides. The synthetic polypeptides and polynucleotides
CC are referred to as a Savine. The synthetic polypeptide is useful for
CC modulating immune responses preferably directed against a pathogen or a
CC cancer, (e.g., cancers of the lung, breast, ovary, cervix, colon, head
CC and neck, pancreas, prostate, stomach, bladder, kidney, bone liver,
CC oesophagus, brain, testicle, uterus), as potentiating agents.
CC Compositions comprising the polypeptide may be used in the treatment or
CC prophylaxis against viral (such as infections caused by HIV (human
CC immunodeficiency virus), hepatitis, influenza, Japanese encephalitis
CC virus, Epstein-Barr virus and respiratory syncytial virus), bacterial
CC (e.g., infections caused by Neisseria, Meningococcal, Haemophilus,
CC Salmonella, Streptococcal, Legionella and Mycobacterium or parasitic
CC (e.g., infections caused by Plasmodium, Schistosoma, Leishmania,
CC Trypanosoma, Toxoplasma and Giardia) infections. The present sequence is
CC a savine protein of the invention
XX
SQ Sequence 3541 AA;

Query Match 100.0%; Score 52; DB 5; Length 3541;
Best Local Similarity 100.0%; Pred. No. 2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EADPTGHSY 9
||||||||| |
Db 631 EADPTGHSY 639

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Job time : 58 secs

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